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ST. LOUIS MEDICAL REVIEW.

L. T. RIESMEYER, M.D.,

EDITOR.

VOLUME XXXIII.

JANUARY--JUNE, 1896

1896.

MEDICAL REVIEW ASSOCIATION.

112 North Fourth Street, Saint Louis, Missouri.

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MEDICAL REVIEW,

7315
A WEEKLY JOURNAL OF MEDICINE AND SURGERY.

VOL. XXXIII.

ST. LOUIS, JANUARY 4 1896.

NO. I.

ORIGINAL ARTICLES

Surgical Tuberculosis of the Knee Joint.

BY ROBERT FUNKHOUSER, M.D., ST. LOUIS.

Read before the St. Louis Medical Society, November 16, 1895.

ETIOLOGY.—It is but recently that the surgical aspect of tuberculosis has assumed such great prominence. Often the disease has not been recognized, and when identified more attention has been paid to the process than to the cause. The great strides that have been made in the pathology of this disease have placed the surgical treatment upon an entirely new footing. Until comparatively lately tuberculosis of bone has generally been studied under the name of caries, but the term is not sufficiently definite. Under tuberculosis there is a tendency, at the present time, to include the diseases known as lupus, scrofula, scrofuloderma, struma, spina ventosa, fungous, gelatinous, pulpy, etc.

Some writers consider that the hip joint is most frequently affected, but of 1998 cases of caries of the bones collected by Billroth, there were 289 of the knee joint and 198 of the hip. It has long been known as white swelling of tumor albus.

In this as in all tuberculous diseases of the joints, there are two types, the arthropathic, where the primary or early manifestations are in the synovial membrane, and the osteopathic, in which the epiphyseal ends are affected. It should be remembered that tuberculosis of the joints occurs more frequently in children and youths than in the matured, and, although the bony type of joint disease is the commoner form of the two, this affection of the knee joint at this period of life (childhood) originates as frequently in the synovial membrane as in the bone, but as age increases the bony form is more usual.

In the great majority of cases the disease follows a slight injury, as contusions, strains, etc., acting as the exciting cause. The primary focal nodules or sequestra may often remain quiescent a long time in the ends of the bone, this period being termed by Volkmann the

prodromal stage of joint disease. Doubtless, few of these tuberculous sequestra in joints and bones are primary, but are secondary to some affected bronchial or mesenteric glands. Of 150 cases examined by Landerer (Warren), with one or two exceptions, the bronchial glands were primarily affected. From various statistics it is judged that about one-third of the cases of children affected are of tuberculous parents, and one out of every five cases of infectious diseases is tuberculous. There seems to be a tendency to the formation of tuberculous deposits in the ends of long bones just as of pulmonary tubercles in the apex of the lungs. They are more frequent in the inner condyle than in the outer, in the upper epiphysis of the tibia than in the lower.

The disease begins as a tuberculous osteitis and its commonest seat is in the center of the epiphysis, or just beneath the articular cartilage, being characterized by the so called tubercular nodules, cheesy sequestra, or infective foci which may undergo caseation, sclerosis or ulceration. These deposits, which are of various sizes, are of yellowish or reddish gray color, being composed of broken-down caseous matter with the gray miliary tubercle at the periphery. Nature tries to limit the inflammatory changes and to protect the neighboring parts by covering the surface of the bone with the so called tuberculous membrane, which, according to the general theory, is a wall of fibrin poured out around the tubercles, but which Cheyne considers to be due to the degeneration of preformed tissue. In 1,000 cases examined by Volkmann the tubercles were found in the surrounding tissue in only two.

Upon examination of a tubercle large multi-nucleated cells, with the nuclei near the periphery, are seen surrounded by the so-called epithelioid cells, around which are leucocytes. Some of the tissue cells, in an attempt to proliferate by karyokinesis, to form the epithelioid cells, fail, producing the above giant cells. Both cells are characteristic, though Cheyne considers the epithelioid more constant, the bacillus being found in both. One is not always successful in discovering the bacillus in the diseased tissue, but it is a significant fact, that, although no bacilli may be found, when cultures are made from it they appear abundantly. This is accounted for upon the supposition that they are more numerous in the earliest stage, but later rapidly change into spores or are destroyed.

A number of very valuable experiments have been

performed upon animals by Cheyne and others for the production of the disease with the characteristic changes. There appeared to be no tendency to the formation of tubercles in the bones or joints, unless the joints of the animals had been subjected to injury, such as twists, sprains or blows; but if the bones were fractured the infection failed at the fracture, a point to be noted in contrast with the experiments in connection with osteomyelitis. The epiphyseal region and adjacent joint are very vascular, and as a result of the injury the circulation is impaired, some of the minute vessels being ruptured, and effusion occurs either into the bone or synovial cavity, which serves as excellent culture medium for the bacilli. It becomes the *locus minoris resistentias* where the micro-organic virus gains a ready entrance. This is more likely to happen in one predisposed to the disease, especially with an adjacent infected gland, which is not at all uncommon.

SYMPTOMS.—The beginning is generally very gradual and insidious with usually slight swelling, either of the bone or joint, with pain upon pressure more marked in the one than in the other. In the osteopathic variety the focal point in the bones should be searched for principally at an early period, the infection of the joint occurring gradually by absorption of the bone or by formation of granulations which slowly dissect off the articular cartilage. There are spasmodic muscular contractions and inability to straighten the leg. The bones are displaced backward and outward and the foot is everted. Abscess may develop, opening either into the joint or externally. When the disease attacks the synovial membrane granulations may form and grow quite exuberantly and are known as the fungous type, or they may undergo pulpy or "gelatiform degeneration," called by Brodie "the gelatinous disease." The joint increases in size, the skin is white and the structures edematous. In the latter stages of the disease the appearances are the same, whether it originated in bony or synovial form. Sometimes the effusion in the joint when withdrawn contains little or no pus and upon examination no bacilli are found.

PROGNOSIS.—It is more favorable in children than in adults, in males than in females. In children the tendency to localization in joint disease is especially noticeable, and in the knee disease a disposition to cicatrization often begins at an early period. It should not be forgotten that progress is very slow and tedious, two, three or more years being consumed in the cure, and that subsequently there is always danger of a relapse.

TREATMENT.—This will depend upon the stage and type of the disease. Whatever it may be, too much stress can not be laid on the constitutional, anti-tubercular treatment, one of the most reliable remedies being cod liver oil in some form if well borne. At the same time the importance of proper climate and hygienic surroundings should not be overlooked, fresh air being one of the best aids in the management of a case.

Treatment may be divided into the conservative and operative. (In this paper I wish to call attention to the

conservative plan of treatment particularly, the more complete description of which may be found in the various text-books, and under the operative, especially the iodoform injection and arthrotomy).

Under the first head may be classed immobilization and rest, one of the most valuable means of affecting a cure in the early stages, especially of the synovial type, before suppuration has begun, the compression favoring absorption. Extension by the various plans has proven of great value in overcoming the spasmodic muscular contractions and relieving the pressure on the diseased bones, although in reality it is not sufficient to separate them, and also in overcoming any malpositions or dislocations of the bones; It is this pressure that favors the ulcerative decubitus of cartilage and bones. Later the patient may use crutches, the diseased limb being protected with a raised shoe on the well foot. Forceful interference may at times not be necessary to overcome obstinate flexions and displacements of the limb. The conservative procedure, if begun early or in the so-called cases of obliterative synovitis, is particularly affective, as to affections of the knee joint suppuration with caries is not so likely to occur as in other joints. After an experience with operations operators feel like voicing the remark of Miller, that movable knee joints are to be got only in circumstances under which recovery might have obtained.

When once suppuration occurs it will be necessary to remove the pus. The possibility of doing this without the great danger usually attending the operation formerly, is due to the present antiseptic and bloodless methods. After the cavity is aspirated under the strictest antiseptic precautions, it is washed out with a solution of borax or borax and glycerine. This may be followed by Verneuil's mixture of iodoform, or some modification of it, as, for instance, one to three ounces of a 10% mixture of iodoform and glycerine, care being taken to have the iodoform come in contact with all parts of the joint. It may be necessary to repeat the injections at intervals of a few weeks. This method of treatment is very satisfactory in serous or sero-fibrinous effusion with rice bodies, and in pannous synovitis. It may take several months before a cure is effected.

The iodoform treatment has obtained universal acceptance and is very satisfactory in appropriate cases. It appears to cause the disintegration of the tuberculous material which it discharges. The bacilli soon disappear, many cells undergo fatty degeneration and the tubercular membrane is destroyed. Billroth adapted a combination of an arthrotomy and of scraping the abscess by rubbing off the lining membrane with iodoform gauze, subsequently injecting the cavity with the iodoform glycerine mixture upon the removal of the gauze. The sclerogenetic treatment by the injection of chloride of zinc has some supporters. Verneuil has used it with benefit in combination with arthrectomy.

Although many cases proceed to a favorable termination by the above procedure, there are some in

which, in the past, excision or amputation was done, but, owing to the better knowledge of pathology and the advancement made by the bloodless and antiseptic modes of operating, a large number of other methods are presented, when the tubercular nodules are recognized in one of the epiphyses, which is comparatively easy if a sinus exists, but not so easy if it is absent. When an exploratory incision must be made extreme care should be exercised, as in all cases where tubercular material is present, to prevent its coming in contact with healthy structures, for inoculation with the tubercular micro-organisms readily occurs and is followed by general infection and results in general miliary tuberculosis. The functional results after excision or the other serious operations are far inferior to those obtained by the conservative treatment. And as the majority of cases occur in children, the fact must be remembered that any operation which involves the epiphyseal line interferes with the growth of the bone. The conservative method from time to time demonstrates that a tubercular knee is not inevitably a doomed joint. On the other hand, children whose knees show very satisfactory results months after the operation, do not present such gratifying conditions years after, as there has resulted a shrunken limb, shortened from 4 to 6 inches, in consequence of the arrest of development. Some times the limb has become flexed or the disease starts afresh and other complications follow which render amputation necessary.

The severer operations should be decided upon after mature deliberation. Each case will have to be decided upon its individual merits. No two knee joints are exactly alike, and no definite rules can be formulated as in the treatment of other troubles. When there is persistent formation of pus in the joint, or there are obstinate malpositions or dislocation, or more or less profound constitutional disturbance, as evidenced by the presence of fever, weakness and loss of appetite, or if other conservative methods have failed, then operative interference will be justifiable. The length of time to be consumed with the functional uselessness of the limb and the position in life of the patient should also influence the decision; for an operation may lead to a cure in a few weeks, whereas a conservative plan might consume many months with no better ultimate result.

Arthrotomy, as the name would indicate, has a limited field of application. The incision may be made in various ways to expose the seat of disease. It might be performed advantageously in the so called primary synovial form in which the tuberculous infiltration of the bone is comparatively superficial. Where a joint is invaded from a bony deposit the disease is confined to the synovial membrane and the tubercular layer can be easily scraped off without injuring the structures of the joint. It may also be done where a sequestrum has dissected off a portion of the cartilage and is exposed to the articular cavity.

A very popular method is arthrectomy, known as "erasure," or "partial" or "atypical resection," or ex-

cision, which has for its object the excision of the synovial membrane or the removal of the structures forming the inner surface of the articular cavity. The difference between this operation and resection is in confining the operation to the removal of the diseased structures. It is not supposed to interfere with growth of the limb, the joint is more apt to keep its natural appearance, the periosteum and shape of the bone is preserved and motion is sometimes limited. The objections to it are that it is not thorough enough, and fails oftener than excision to eradicate the disease. It is better adapted to disease of the knee joint than to other joints and should be performed after the iodoform treatment has been tried. Where the disease is extensive and excision or arthrectomy practiced, very limited mobility, if any, is to be expected in the great majority of cases. There are some warm supporters of excision, but under special circumstances amputation is preferable.

Traumatic Arterio-Venous Aneurism of the Arch of the Aorta and the Innominate Vein.

Colzi (*Lo Sperimentale*) reports the case of a man 37 years of age, who was stabbed just below the clavicle, the knife grazing the sternum, eleven years previously. He was unconscious immediately after the accident, but did not lose a very large quantity of blood, and recovered by rest in bed for about a month. Four months later, while at work, the left half of the face and the left arm swelled up. Two years after the accident there was, besides the swelling, a dusky red coloration of the skin in these regions, a non-pulsating exophthalmos, and dilated pulsating veins on that side, with a distinct arterio-venous aneurismal thrill. On auscultation, the thrill was most distinct over the manubrium sterni, and could be followed down the internal jugular, and left brachial veins, and over the skull in the course of the sinuses. The man was unable to do heavy work, and the arm increased greatly in size, but otherwise he was not much troubled by his condition. He finally died of thrombosis of the jugular, ending in an apoplectic attack. Post-mortem examination showed that there was an opening of about 7 mm. in diameter in the arch of the aorta, between the points of origin of the carotid and the innominate arteries, which communicated directly with the left innominate vein, which was dilated at this point to the size of an orange, with the usual changes in the veins beyond. There was acute cerebral edema. Colzi thinks that the blood from the aorta entered at once into the jugular vein, and, distending it, caused the flow of arterial blood to be kept within bounds by pressing upon the edges of the wound in the vessel. Both the recovery and long survival after such an accident are remarkable.—*Amer. Med.-Surg. Bulletin.*

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PUBLISHED UNDER THE AUSPICES OF THE
MEDICAL REVIEW ASSOCIATION

BY O. H. DREYER.

YEARLY SUBSCRIPTION, \$3.50. SINGLE COPIES, 10 Cents.

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Entered at the St. Louis Postoffice as Second-Class Matter.

The Election of Officers of the St. Louis Medical Society.

In this issue of the REVIEW our readers will find a list of the newly-elected officers of the St. Louis Medical Society. The choice of candidates was a conservative one throughout and they were elected almost unanimously.

The election of Dr. W. G. Moore as President of the Society has been a most gratifying and welcome one to the vast majority of the members. Dr. Moore is endowed in a high degree with the happy faculty, possessed by few mortals, of making friends, and friends only. The Society could not have made a better choice. The unanimity of his election, which took place on the first ballot, besides showing his great popularity, is an unmistakable sign of the present trend of sympathies and conviction of the great majority of the St. Louis

medical profession, namely, a prudent, but firm and unyielding conservatism as far as the question of ethics is concerned.

Dr. Moore's career has been of an unassuming, unpretentious, gentlemanly nature and this appears to be in no small degree the cause of his choice at this particular period in the history of the Society, in which good conservative men are needed to take an active part in the proceedings of all medical societies that are ambitious of preserving their dignity in the ethical sense of the word.

* *

In his Presidential Address the retiring President of the Society, Dr. Mooney, very pertinently stated that during the last year the attendance had been an unusually good one; that the papers had improved in quality as well as in quantity, and that the work done in general was showing a marked improvement over that of some of the former years. The Doctor attributes this encouraging progress to the exclusion of the reporters of the daily press from the meetings of the Society, a result which we have predicted years ago when the non-admission of the reporters was staunchly advocated in the editorial columns of the REVIEW, which is proud to have taken part in this reform movement and elated to see its untiring efforts of advocating the same with all its energy and force of conviction, crowned with success.

The choice of the other officers has been equally appropriate and in harmony with the conservative policy of the Society whose interests could not have been confided to more deserving and trustworthy men.

The members of the Society may look forward to a most prosperous year regarding its welfare in a scientific sense as well as in every other respect. The St. Louis Medical Society, the oldest medical society of this city, as well as the most representative society, numerically and scientifically, may be proud of its recent progress and achievements; may its floor continue in being the main debating ground for many of the most distinguished members of the St. Louis medical profession! Let us hope that all the conservative as well as nonconservative members will do their best during the coming year in helping to make its meetings as interesting and well attended as a society of its numerical and scientific importance deserves to be.

The Recent Reduction of Medical Fees by Life Insurance Companies.

There is no body of men that could be more willing to give their knowledge and services to the deserving free of charge, nor is there any calling whose votaries are proverbially more self-sacrificing and whose average characteristics are of a nobler or higher-minded tendency than that of medical practice and medical research. The disciples of medical art and science have ever been active in the attempts of reducing the ravages of epi-

demics as well as preventing and stamping out some of the most formidable ones. They always have been, but in modern times more especially, ever on the alert to prevent disease as much as to cure it. Their efforts in preventive medicine have been crowned in the last few decades with a success that would not have been dreamed of fifty years ago. The range of medical science and art is continuously enlarging; the specialties are becoming more and more numerous, so that every branch of medicine has not only become a specialty but has its sub-specialties—a specialty within the specialty. The so called general practitioner is no longer a general practitioner in the old acceptation of the word, but he, too, has specialistic knowledge in whatever has been left to him by the more generally acknowledged and more definitely circumscribed specialties. The services of physicians to individuals as well as to corporations and societies have become of more intrinsic value.

Medical fees, although the value of medical services, has undeniably increased, have not kept an equal pace with the greater knowledge of physicians and the augmented difficulties in securing practice, as a consequence of the vast numerical growth within the ranks of medical men. It appears, therefore, exceedingly untimely that life insurance companies, without any urgent or pertinent reason, should be so unpatriotically and unappreciatingly inclined as to reduce the fee of their medical examiners, a fee which certainly has been an exceedingly moderate one in comparison to the importance and far-reaching consequences of an examination for a life insurance. Such positions should only be entrusted to the most competent and trustworthy men; men who are thoroughly acquainted with all the newer accomplishments and auxiliaries in modern diagnosis and medicine in general.

The old fee of five dollars was, to say the least, a very modest compensation for a competent physician, and it is time that medical men should stand shoulder to shoulder in order to raise the public standard of estimating the value of medical services in general and for life insurance companies in particular. There is a saying that nobody is held in higher estimation by others than he esteems himself. While we do not think that this adage holds good in every case, it is a well-known fact that many laymen gauge the services of a physician by his fees and his importance and social position by his income. But, however this may be, the time has come when medical men should look not only to the ideal side of their calling, which is usually not appreciated by the laity, but that the practical aspect should be equally considered. The general condemnation of the action of life insurance companies of reducing the fee for medical examinations from five to three dollars, should be unanimous and should be met by a united and concerted action of all the members of the medical profession.

Resolutions to this effect have already been passed by some medical societies, their members pledging themselves not to accept a position as examiner at a reduced fee, and we hope that many others will soon follow

suit, for the purpose of upholding the estimation of the physician as well as for the sake of right and justice: the unanimous action of the life insurance companies should be met by a staunch and unanimous refusal of the profession of serving for a "cheap price."

BOOK : REVIEWS

Books reviewed in this column may be obtained, post-paid, by addressing the publisher of this journal, and remitting the quoted price.

Physicians' Record Book. By FLAVEL B. TIFFANY, M.D.

Dr. Tiffany's new Record Book for the eye, ear, nose and throat men is now on sale and can be obtained from the publishers, Hudson-Kimberly Publishing Co., 1014 Wyandotte street, Kansas City, Mo., and from the author, 2457 Troost avenue, Kansas City, Mo.

Anomalies of Refraction and of the Muscles of the Eye. By FLAVEL B. TIFFANY.

Dr. Flavel B. Tiffany announces that the second edition of his book on "Anomalies of Refraction and of the Muscles of the Eye" is out.

A Manual of the Practice of Medicine. By GEORGE ROX LOCKWOOD, M.D., Professor of Practice of Medicine in the Woman's Medical College of the New York Infirmary; Attending Physician to the Colored Hospital, and to the City (late Charity) Hospital; Pathologist to the French Hospital; Member of the New York Academy of Medicine, of the Pathological Society, of the Clinical Society, etc. With 75 Illustrations in the text and 22 full-page Colored Plates. Philadelphia: W. B. Saunders. 1896. Price, \$2.50.

As a work for ready reference the book fills a want for those who have not the time to refer to the more voluminous works of which medical literature contains a great and excellent variety. The essential facts and principles of the practice of medicine are represented by the author in a clear, practical, and available form. The many illustrations aid greatly in the elucidation of the text and add considerably to the value of the manual. All the new and well-authenticated discoveries properly belonging within the frame of the work have received due consideration so that it is a work thoroughly up-to-date. It is a work which will be greatly appreciated by practitioners and students.

The "Review of Reviews" for January, 1896, comes to us clothed in a new title page and filled with its usual spread of good things. "South Carolina's

New Constitution," by Albert Shaw; "At Jerusalem Five Years Hence," a Political Prophecy; "Israel Among the Nations," by Prof. Gottheil, of Columbia College; "The Jews of New York," by Jacob A. Riis; "The Progress of the World," "A Classified Record of the Month's American and Foreign News," etc.

TRANSLATIONS.

BY EDGAR THOMPSON, M.D.

Acute Pulmonary Edema.—Acute edema of the lungs has been observed by Dr. Huchard in the following pathological conditions (*Rev. Internationale*):

1. Chronic aortitis, with or without valvular lesions.
2. Interstitial nephritis.
3. Coronary angina.
4. Mitral stenosis.

The symptoms of the edema in all cases are, as a rule, the same. The attack is preceded by great anxiety. The urgent symptoms then rapidly supervene; there will be extreme dyspnea; progressive cyanosis; a facial expression of great terror with supreme voluntary respiratory efforts are the marked signs. On auscultation fine crepitant rales will be heard over the entire thorax. sometimes a semi-paralysis of the bronchial tubes and diaphragm. When such a complication occurs respiration becomes shallow, the expectoration is suppressed, tracheal rales become very prominent and the general condition is very grave.

In all cases of acute pulmonary edema the expectoration is very characteristic. Whatever may have been the color or consistency of the sputum it will quickly become a thin serous fluid. The expectoration is very similar to that seen after the removal of a pleural effusion.

Considering the great amount of serum transuded into the alveoli and bronchioles the opinion would prevail that the percussion resonance would be greatly diminished and dullness would finally prevail. Such is not the case. A hyper-resonance or even a tympanic note is a constant physical sign in edema of the lungs. This paradoxical resonance is probably due to a peculiar relaxed state of the lung tissue leading to an acute emphysema. The temperature is not elevated as a rule.

Clinically an attack of acute edema has two well-marked periods. During the first part the dyspnea is great the expectoration is abundant and the arterial tension is very much increased. The pulse is more resistant to finger pressure than normally. The second stage is characterized by scant expectoration, arterial depression with a systole, and a congestion of the right side of the heart.

The pathology of acute edema has not yet been thoroughly demonstrated. The immediate symptoms are due, probably, to a rupture of the equilibrium between the two ventricles, resulting in a sudden stasis of blood

in the pulmonary circulation. The primary cause is a disturbance of the nerve control.

The treatment of acute pulmonary edema must be directed to the right side of the heart, and to the pulmonary circulation. The heart stimulants are of no avail because they act primarily on the left ventricle and the systemic circulation. The real condition is a congestion of the right ventricle and this must be alleviated by withdrawing a large amount of venous blood.

The great prostration and collapse coincident to the disease and which will be aggravated by the bleeding, may be best treated by hypodermic injections of camphor in oil.

To treat the disturbance of the cardio-pulmonary innervation and especially the tendency to bronchial and diaphragmatic paralysis, which is the general cause of a fatal termination, the hypodermic use of strychnine is to be highly recommended. Electrical stimulation of the vagus nerve and cauterization over the sterno-costal region has been suggested; the latter is of proved value as a general treatment.

Acute pulmonary edema must be differentiated from uremic dyspnea, passive congestion of the lungs, asthma, and a common case of cardiac dyspnea.

Pigmentation of the Skin.—Skin pigmentations are not diseases *per se*, but it is a symptom of many diseases which have various pathological conditions (*L'Union Medicale*, Nov. 23, 1895).

Pigmentations of the skin may be divided into two general classes:

- I. Those pigmentations depending on internal causes, and,
- II. Those that can be attributed to external influences.

The first group comprises two divisions:

1. Those pigmentations that are the principle symptoms of a general disease, as in Addison's disease, syphilis, and the pigmentation caused by medicines and toxic agents, as silver nitrate and arsenic.
2. Secondary pigmentations as found in tuberculosis, exophthalmic goitre, chlorosis, malaria, diabetes, and many skin diseases.

The most perfect type of skin pigmentation is found in Addison's disease. The pigmentation is progressive and is accompanied by the common symptoms of the disease. When the disease is well established the discoloration is of a bluish tint and is, as a rule universal, but may be localized. The color is deeper at those points exposed to the air and sunlight, and the color is also more intense where there is more or less normal pigment.

The syphilitic pigmentations are the brown and copper colored stains that appear on the body, especially in the cervical region and on the chest and back. This pigmentation usually disappears spontaneously after a prolonged duration.

The pigmentations of arsenic and silver are diffuse; the former light brown, while the latter is dark and

very deep at those places exposed to the action of the light.

The pigmentation in tuberculosis, chlorosis, malaria and similar diseases is due to vascular changes (histological), and to blood changes resulting in the destruction of hemoglobin with deposit of pigment.

The external causes of pigmentation are some sort of traumatism as a rule. Long continued pressure (corsets, trusses and bandages) frequently cause pigmented spots where the pressure is applied. Sometimes a pigmented spot will remain for a long time where a vesicant had been used, as sodium, chromic acid, chrysarobine, etc. Prolonged exposure to the wind, sun or cold sometimes produces pigmentation.

The diagnosis of Addison's disease depends on the pigmentation, the character of which is classic. It could only be confused with the pigmentation of some of the cachexias. In the true pigmentation of malaria the mucous surfaces are never affected. In the diabetic pigmentation the mucous surfaces and conjunctivæ are colored, and an examination of the urine will reveal the real pathological condition.

In all the true pigmentations the pigment bodies are found mainly in the Malpighian layer of the epidermis; sometimes in the superficial cells of the chorion.

The pigment is probably brought to the skin by leucocytes and a deposition takes place followed by absorption in the cuticular cells.

In the negro this pigment is a normal constituent of the lower layers of epidermal cells.

Many theories have been advanced to explain the phenomena of pigmentation:

1. The theory of Chatelain that the epidermal cells produce the pigment *in situ*, this action of the skin depending on some peculiar sympathetic excitation.

2. The theory of Brown-Sequard, the formation and deposition of pigment is dependent on changes in the suprarenal capsule.

3. The pigment is formed in the blood.

The prognosis as far as the pigmentation is concerned is unimportant, and varies with the gravity of the primary disease.

The Pennsylvania Colony Farm for Epileptics.—The project of establishing a colony for epileptics, where country living and farm work, judiciously apportioned, would constitute the principal therapeutic treatment, which has been under consideration for some time, has at last assumed a definite shape. The court has granted a charter for the "Pennsylvania Colony Farm for Epileptics," and the corporators have organized, November 18, by the election of Dr. Wharton Sinkler, president. Among the directors are Drs. Charles K. Mills, James C. Wilson and Wharton Sinkler. A charitable gentleman of Philadelphia has offered to give \$50,000 for the erection of suitable buildings, provided that the farm be secured before January 1, 1896.—*Boston Med. and Surg. Journ.*

MEDICAL SOCIETIES

Proceedings of the St. Louis Medical Society.

W. H. FUCHS, M.D., EDITOR.

Stated meeting, Saturday evening, November 16, 1895; the President, F. D. MOONEY, M.D., in the chair,

* *

DR. ROBERT FUNKHOUSER presented a paper (see page 1) on "SURGICAL TUBERCULOSIS OF THE KNEE JOINT."

DR. PINCKNEY FRENCH differed with the essayist on several points brought out in the paper. That a large part of the tuberculous diseases in the joint occur as a result of a local injury is an established fact, but the statement, that the large majority of these cases result in such manner, will not be borne out by the authorities of the present day. Then, too, the large majority of cases of osteal tuberculosis in children develop in the end of the bone on account of a histological peculiarity of the blood vessels and circulation during the period of its growth, and not as a consequence of the trauma alone. In synovial tuberculosis, however, we usually have a history of some slight injury, although in these cases we find a tubercular diathesis which has existed for a long time. The proportion of osteal to synovial tuberculosis is about as four is to one.

As to the treatment of tuberculosis of the joints, that should be outlined with reference to the seat of the disease and the pathological conditions present, rather than according to the origin. For this reason it is important to determine very carefully whether we are dealing with osteal or synovial tuberculosis, or both.

There are three varieties of synovial tuberculosis and in each the treatment differs. In the first variety, after the tissues have been acted upon by the tubercular process, we have a hyperplastic condition which is followed by effusion into the joint. Considerable membrane may be present, but only slight granulations form and they are situated around the edges of the joint at the line of insertion of the synovial membrane. From his own experience, speaker said this is the only variety which is much benefitted by iodoform injections. In these cases the joint is aspirated, the fluid removed and a 25% emulsion of iodoform in glycerine or sweet oil is injected. There is a likelihood of curing the patient in this manner with only slight impairment of the function of the joint. This is the mildest form of synovial tuberculosis.

The second is the papylomatous variety where the fluid is only slight in quantity and where small papylomata project from the surface of the synovial structures. Nothing short of an arthrectomy will be of any benefit in cases of this character.

The third variety is that in which fluid is entirely

absent and in which the joint surfaces are covered with a fungous growth.

When osteal tuberculosis complicates the synovial forms simple arthrectomy will not prove sufficient. The bone itself must be opened and the entire diseased tissue removed. In cases of uncomplicated osteal tuberculosis the diagnosis ought to be made before the joint or structures of the thigh are involved. If it is recognized early enough the bone may be opened freely from either side and the joint may not be interfered with, the periosteum need only be pushed to one side of the incision into the bone. It has been suggested that an atypical resection be made in cases where the joint is implicated. By that is meant opening of the joint and curetting away only those portions of the articular surface which have been attacked by the process. This procedure, in all cases of which speaker had personal observation, was followed by very imperfect results, and he has found it necessary to do excision, cutting away all structures composing the joint.

Referring to the treatment in general, speaker said that it should be adapted to each individual case. He is an enthusiastic advocate of the early operation. The predisposing element and the systemic condition at the time of operation has much to do with the prospect of successful work, whether the operation be excision, arthrectomy or the injection of iodoform. Every one of these patients has the bacilli floating in the blood, and if the trouble is an acute local expression resulting from the disturbed nutrition consequent upon some injury, any kind of operative procedure which will remove the focus of the disease in its entirety gives prospects of good results. But where the constitutional element predominates, has existed for a long time and has materially impaired the vitality of the patient, no operation is likely to be successful, no matter how nice it is completed with reference to the removal of the entire local process. The operation in these cases is not without danger, and if the constitutional infection is of long standing patients are more liable to succumb to the disease.

We rarely see the osteal type early enough to permit of an ideal operation. When a case can be diagnosed before the joint has become involved the focus of the disease might be ascertained by puncture, and it could then be attacked from either side of the limb so as to preserve the function of the joint. Unfortunately, the majority of surgeons have their attention called to these cases after they have been in progress for months and years. And there seems to be a peculiar tendency to involvement of all the structures which go to make up the joint, so that in operating not only the articular surfaces must be removed, but the ligaments, sheaths and tendons as well.

Constitutional and tonic treatment are important adjuncts.

DR. H. H. MUDD has been interested in this class of cases for some time and had gathered some statistics as to the relative frequency of tuberculosis disease of the

knee joint as compared with other joints of the body, and also in the different decades of life. He finds that of all tubercular diseases of the bones and joints at all ages 23% involve the knee, 16% the spine and 13% the hip, the relative frequency varies with age of the individual; for instance, in the knee 12% of the cases occur in the first decade, 23% in the second and 37% in the third and fourth. Speaking generally we may say that the liability to tuberculosis of the knee increases with the age of the patient. Just the reverse obtains with tubercular foci troubles. Of these about 42% occur in the first decade of life, 26% in the second, 14% in the third and 10% in the fourth. Reference was had to tubercular disease of the bone. When this occurs we sometimes have distinct sequestra, a distinct necrotic operation on the bone, and 19% of these cases occur in each, the first and second decade, and 49% occur in the third and fourth decade together. That is, generally speaking, as the patients grow older, they are more liable to have necrosis, while the younger patients are more prone to the development of caries, with a more general involvement of the tissues of the joint.

Speaker had seen quite a number of cases, such as Dr. French alluded to, where there is a simple distension of the joint with a more or less flocculent and dirty serous exudate, but these cases are proportionately rare in his experience. The most frequent site for its development is in the supra-patellar bursæ as a starting point, and in the vast majority of cases, according to his own observations and the statements of others, it attacks the region along the line of insertion of the synovial membrane in the bone. It is along these points that the gelatinous infiltration occurs which gives to the joint its peculiar appearance and to the swelling the boggy and semi-elastic consistency. We may have a very marked enlargement of the joint with only slight fluid accumulation. Occasionally these tubercular nodules are so well marked in the synovial tissue that an early diagnosis can be made, the nodule cut down upon and the gelatinous deposit removed; and, doing this, we may occasionally have a complete restoration of the joint, although these are the exceptional happy cases. In the great majority of cases the process goes on until the whole extent of the joint is involved, so as to make a complete operation impossible.

Arthrectomy means the complete removal of all the diseased parts, and if the process had gone far enough to involve the articular surface the cartilage must be shaved off in addition to the removal of the tendons and joint capsule, especially at its points of attachment to the bone. The operation will not be successful unless every particle of diseased tissue is removed. In children it is of the utmost importance that the epiphyseal end should not be disturbed, lest the further development of the bone be interfered with. But fortunately in a large proportion of the cases in children that portion of the bone through which it obtains its nutrition is not involved by the process. Therefore, in children the operation often results very favorably in that

motion in the joint is partially preserved and the growth of the bone is not interfered with. It must be remembered, however, that the inflammatory condition may have been so acute as to create nutritive changes which result in the destruction of the cartilage and in arrest of development.

Speaker was not so favorably inclined to arthrectomy in children, because good results may, and often do, follow the placing at rest of the joint and application of counter-extension for a long time.

Tuberculosis of the bone, in the majority of the cases, develops in the epiphyses. A diagnosis can often be made early and the chances for brilliant surgical work are better. If the disease progress the pus, of caseous deposit, may find an exit in several directions. In one case the pus may pass directly into the joint and cause an acute synovitis. Another time it escapes through an opening at the junction of the synovial membrane with the bone, and a third point of escape is at the epiphyseal line.

The knee joint is particularly favorable for the surgeon in that it is open for observation throughout its entire surface, and also from the fact that it may be immobilized and kept in that position more readily than any other joint of the body. The position is one favorable for fixation and accomplishes here what extension does in the hip. Extension is not necessary here as it is in the hip.

Speaker had not had good results from the injection of iodoform and other remedies. A good result may follow occasionally in a case where there is synovial disturbance without much infiltration of the parts, but in the majority of the cases it is a waste of time to attempt anything with it.

Amputation should be resorted to in the aged where we have a failing of the general health, and it sometimes becomes necessary in youth and middle life, although here it should be the exception. Formerly the cases were allowed to progress until there was involvement of the entire bones, including the epiphysis, up through the femur and down through the tibia. It was impossible to clean out all the foci in these cases so that amputation was to be preferred.

Doubtless many cases get well without operation, simply by fixation and extension, but excision, particularly where there is involvement of the whole membrane, yields such good results that it should be done early.

DR. PHILLIP HOFMAN believed that the great majority, if not all of the cases of tuberculosis of the knee joint are due to trauma. The knee joint is very much exposed to injury, and every child, at some time or other, receives a contusion or wrench of this part. The same is not true of the hip joint, at least not in the same degree, because here the joint structures are deeply placed and protected from direct violence by a thick layer of soft muscular tissue. When hip joint disease can be traced to an injury the trauma has usually been sustained indirectly, as by a jar from a fall.

We often find cases of tuberculosis of the knee joint early in its development, where there is only slight pain, hardly any ankylosis and a puffy condition on each side of the patellar tendons, a feeling of thickening of the synovial membrane. It is in this class of cases that perfect rest, continued for from six months to two or three years, accomplishes a perfect cure of the trouble. And the result is far superior, from the standpoint of shortening of the leg and functional preservation of the joint, than that obtained by any operation ever suggested.

Arthrectomy and excisions are of no use whatever unless all the diseased structures can be removed, and this is difficult to accomplish unless the joint is too extensively invaded. Of course, there are cases that are brought to the surgeon very late, after the destructive changes are very extensive, or those which grow from bad to worse in spite of tentative measures. Here nothing short of radical means will be of any benefit.

DR. HODGEN thought that there are very few cases of tuberculosis of the joints in which a history of injury is absent. In most cases, also, there is a family history near or remote, of tuberculosis, and that is an important factor in the trouble. Too much stress should not be placed on either one of these factors alone, but they must be considered together.

DR. FUNKHOUSER said that the disease occurs most frequently in childhood, and, originating at this period, occurs as frequently in the bone as in the synovial membrane.

Referring to the origin of the trouble, he did not state that the disease is caused by the injury, but usually follows it when it occurs in patients of a tubercular habit. The injury here creates the condition favorable to the development of a pre-existing tendency. Although many authors claim that the hip is most frequently affected, Billroth's statistics seem to prove conclusively that the knee joint is most frequently involved.

One of the points which, in his paper, he tried to emphasize particularly is the necessity for absolute rest, stating, also, that knee joints need not necessarily be doomed if perfect rest, with protection, compression and extension, is maintained; on the contrary, this method brings about results which, in the beginning, we hardly dared hope for.

As has been emphasized by other speakers, the great difficulty in these cases is the fact that we often see them too late to adopt conservative measures. Even if they are brought to us early it is not always possible to diagnose a tubercular nodule in the head of a bone, and an exploratory operation is necessary to arrive at a positive diagnosis. The prime reason for any operation is to eradicate the disease, and this must determine our choice of any particular operation. Recent reports seem to indicate that the results from arthrectomies are very favorable, especially in children, and that the operation is growing in favor. Owen states that it is preferable to secision in some cases. But after the

patient has reached middle life, or perhaps a little beyond, it is questionable whether the results are as favorable as in excision or amputation. It is the choice between amputation followed by the adjustment of an artificial limb with motion at the knee, and a stiff limb with the possibility of a return of the disease, since we can not always tell how many tubercular foci exist or whether they have all been removed at the time of the operation.

First and foremost in the treatment of tuberculosis of the knee, in childhood more than at any other period of life, is absolute rest, due consideration being given to proper hygienic surroundings, fresh air, good food, such as cod liver oil, and tonics.

ABSTRACTS

MEDICINE.

A Form of Rotatory Sensation in Labyrinthine Disease Hitherto Undescribed.—

At a recent meeting of the British Medical Association, a report of which appears in the *British Medical Journal*, Prof. Guye, of Amsterdam, stated that he had had occasion some months before to show a patient suffering from Meniere's disease, who presented a peculiar form of rotatory sensation which was not quite new to him, as he had observed the same some years ago in a small number of patients, but which had not yet been described. The patient, a man aged forty-seven years, had suffered from influenza four years ago, but had not complained of his ears at the time. Since then he had enjoyed good health. He was often exposed to cold. For the last two months he had had a ringing in his left ear, and suddenly he had in July of last year an attack of giddiness, when he fell down and vomited. This attack returned at first twice daily, and later on at intervals of from ten to fourteen days. When Prof. Guye reported the case the patient had been in the hospital for four weeks, and had still now and then an attack, mostly without vomiting. He heard the watch at two metres in the right ear, not at all in the left. His was a typical case of Meniere's disease. He had also symptoms of labyrinthine disease in his left ear, giddiness, rotatory sensation in the direction of the diseased ear, vomiting and deafness. There was no symptom of any middle ear disease. With the first attack objects appeared turning round like a wheel, or like the hands of a clock, and in the direction of the hands. When that had lasted for some time he suddenly saw everything turning away to the right; then came sickness and vomiting, and if he did not lie down soon he would fall. The rotatory sensations in Meniere's disease were, as a rule, of two forms. Generally patients had the sensation of rotation to the right or to the left round a verti-

cal axis, and, as Dr. George had shown in 1879, to the right when the right ear was diseased, and to the left when the left ear was the diseased one. When the sensation was very sudden it might produce a reflex movement of rotation in the opposite direction. Some patients had, with the rotatory sensation to the right, the idea that the surrounding objects turned to the left. This was usually the case when the attack was severe. When the sensation was not so sudden and lasted a little longer they had the idea that the objects were turning in the same direction as their own head. It was rather remarkable, said the author, that when they had slight fits, accompanied by uncertain gait in walking, they felt more propensity to fall to the side of the diseased ear than to the other side. The slight rotatory sensation in one direction produced the idea of rotation in that direction, which led to an involuntary, though not unconscious, movement in the same direction. When, on the contrary, rotatory sensation was strong and sudden, it produced a reflex unconscious movement in the opposite direction. This seemed, he said, to be worthy of notice in the interpretation of experiences in animals where there was no other sign of the sensations than the movements induced by them.

These rotatory sensations round a vertical axis might very plausibly be accounted for by irritation of the ampullæ of the horizontal canals. Besides this rotatory sensation round a vertical axis patients generally described rotatory sensations forward and backward, as if they were turning over, and in some particular cases they described the sensation as if the objects did turn around before their faces with the movement of a wheel or of the hands of a clock. If any explanation of these sensations were to be looked for in the theory of the functions of the semicircular canals, it must be remembered that the two vertical canals, which were sometimes called the frontal and the sagittal, but were better denominated as the superior and posterior canals, could, according to the theory of Crum Brown, afford rotatory sensations round two axes which are about perpendicular to each other, and to the vertical. The planes of these canals did not cut the horizontal plane in the sagittal or frontal, but in the diagonal direction. The superior canal of the left ear corresponded to an axis going through the right eye and the left mastoid process. In a plane parallel to the canal lay the posterior canal of the right ear. The axis, corresponding to the superior canal of the right ear and to the posterior of the left ear, ran through the left eye and the right mastoid process. Slight rotatory sensation in these two pairs of coordinated canals could produce the impression that objects were turning like the hands of a clock, the dial of which must be thought of as standing before the patient, more to the right or to the left. More violent rotatory sensation originating in one of these canals would produce the sensation of falling forward or backward, and of turning round about an axis which did not lie transversely, but a little more to the right or to the left.

Generally, said the author, such patients felt so giddy

that it was not easy for them to make accurate observations. But there were patients who were intelligent enough to make reliable observations, especially when their attention had been directed to the questions beforehand. Dr. Guye thought it was important to make a note of their impressions, and, if possible, to compare them with the state of the internal ear as found post mortem. He thought this especially important on account of the theories of some French writers, such as Pengnier and Tournier, who considered Meniere's disease as a neurosis occurring in mental degeneration, and the cause of which could not be found or should not be sought in the ears, but in the brain, and on account of the theories of some German writers, such as Bottcher and others, who looked on the static troubles produced in experiments on the semicircular canals as caused by lesions of the brain. Dr. Guye wished to draw attention to this new rotatory sensation in the first place to inquire if it had been already noticed, and, if not, to beg that it should be looked out for in the future.

Prof. Urban Pritchard confirmed Prof. Guy's observations; he agreed with him as to the semicircular canals being the seat of Meniere's disease.

Dr. T. Barr, of Glasgow, stated that he had found that descriptions given by patients of their rotatory sensations were vague and unreliable. It would be desirable to direct the patients to observe carefully the nature of the movements. In regard to the view that the semicircular canals formed the static organ of the body, that was far from being proved. In a case in which the whole of the labyrinth was removed as a sequestrum there was no disturbance of the equilibrium. Irritation, not destruction of the nerve termina in the ampulla and utricle, seemed to be the exciting cause by reflex action upon the center of equilibrium in the cerebellum adjacent to the auditory centre.

Dr. A. Bronner thought that the seat of vertigo was in the brain; the very fact that digitalis had in many instances such a beneficial effect pointed to a central origin. The varying forms of vertigo also spoke against an exclusive canal origin, as in this case the symptoms would be of a more uniform character.

Prof. Guye said that the functions of the semicircular canal had not yet been decided. It was of the greatest importance to impress the patient with the necessity of making accurate notes of his sensations.—*New York Med. Jour.*

A Strange Antipyrine Eruption.—In the *Lyon medical* there is an account of a singular eruption which came under M. Ballin's observation, the true significance of which, he says, escaped him for a long time. The eruption, which occurred twelve times in the same patient, consisted of flat, round, or oval patches which were of about the thickness of a five-franc piece and of a uniform red color, somewhat like that caused by a burn which had scorched the epidermis only. The affected part was quite edematous, but the redness did not encroach upon the healthy parts. At the time of

the first attack two or three of the patches were transformed into large blisters, the contents of which were citron colored and transparent; this, however, was not observed during the other attacks. At first the redness was simply erythematous, but when numerous successive eruptions had caused congestion of the same parts several times a dark red color persisted for quite a long time, and any pressure on the patches revealed the presence of an ecchymotic color under the epidermis.

The eruption, says M. Ballin, was always localized in both hands, especially in the right hand; the rest of the limbs, the head, and the body was not affected, with the exception of a small spot under the right middle toe and another spot on the inner side of the upper gum, near the median incisor. At each successive attack all the parts previously affected were again invaded, and the patches were larger than those of the preceding eruption. There were, besides, usually two or three new patches; so that the last attacks covered a much larger surface than that of the healthy parts.

The eruption gave rise to great itching; it was also painful, especially when the part was brought in contact with a hard body. Scratching or simple friction aggravated the redness and the painful symptoms, which were more marked during the later attacks. There were no general symptoms and there were no albumin in the urine. The eruption began by a sensation of intense pruritus, after which the patches came out rapidly. At the end of the second or third day the painful symptoms diminished and the redness gradually disappeared, and in about ten days the epidermis of the affected parts came off in large flakes, and the attack terminated.

With regard to the etiology of the eruption, says M. Ballin, the objective and subjective symptoms during the first attack were so like those produced by the bites of gnats and of mosquitoes that the author thought they had been caused by these insects, but as the successive attacks occurred during a season when there were neither gnats nor mosquitoes, it was thought to be an herpetiform eruption of an infectious nature. Carbolic acid lotions and powders of bismuth salicylate were prescribed, which diminished the painful symptoms, but did not prevent the return of the eruption. The patient was then questioned concerning the eruption, and he recalled the fact that it had always appeared after the ingestion of antipyrine, even in small doses, which he had been in the habit of taking for the relief of headache, to which he was subject, but he had not thought to connect the eruption with the antipyrine, as he had taken the drug many times before without experiencing similar results.

M. Ballin concluded then to make a trial with the drug, and accordingly eight grains were given to the patient for the relief of the headache, and half an hour later he felt the premonitory pricking sensation of an attack, and the patches soon appeared. As herpetiform eruptions are frequently accompanied by general symptoms, the author thought that the headache might be the first symptom of an attack of herpes, and, in order

to assure himself on this point, he made another trial with the drug after the patient had entirely recovered from the last attack. Again eight grains were given, and the administration of the dose was followed by a fine eruption absolutely similar to the preceding ones, which terminated in the same manner. This trial, says M. Ballin, was positively decisive; the patient had no headache at the time, and since then there has been no return of the eruption, as the patient has given up the use of antipyrine.—*New York Med. Jour.*

Primary Pulmonary Actinomycosis.—Aschoff, of A. Fraenkel's clinic (*Berl. klin. Woch.*) first refers to the three stages described by Israel as follows: (1) Limitation of the disease to the lungs; (2) extension by contiguity or by metastasis; and (3) rupture upon the surface. The recognition of the disease in the first stage from tuberculosis may be very difficult. Actinomycosis spares the apices, and there is no marked hemoptysis, although the sputum may be bloodstained. The presence of the fungus in the sputum is the most important fact. In the second stage a partial shrinking of the lung occurs, with exudative pleurisy. When the chest wall begins to soften an empyema may be simulated. More recently some of these points advanced by Israel have been controverted. Actinomycosis has been known to affect the apex of the lung; and the shrinking is not so constant as was thought. It has been maintained that not suppuration but tumor formation is the characteristic of this mycosis. The fungus may not be found in the sputum or even in the pus. It has been maintained that not only the teeth and tonsils may be the original source of the lung infection, but that the fungus may be directly inhaled. In the case reported by the author there was on admission a right sided pleural effusion with flattening of the upper part of the chest. A systolic murmur was heard over the base of the heart. Later there was a moderate hemoptysis lasting four days. Clear fluid was drawn off by the exploring needle. No tubercle bacilli, tumor elements, elastic fibrils, or fungi were found in the sputum though repeatedly looked for. Later a local bulging below the right breast was noted, and eventually pus containing the actinomyces was obtained from this. A day or two later about 150 c.c.m. of pus containing the fungus was spat up. An incision was made in the chest at the site of the bulging, and stinking pus containing the actinomyces was let out. Peritoneal symptoms eventually appeared, and the patient died. The author draws attention to the following points in the case: (1) The infection was derived from a carious tooth; (2) the disease lasted over two years; (3) the diagnosis lay between tuberculosis, echinococcus, and possibly malignant tumor; (4) the pus has a characteristic smell, and may in all probability be caused by the actinomyces alone; (5) the sputum is often flesh colored or like blackberry jelly, and may simulate that of tumor of the lung; (6) an appreciable glandular swelling was not present; (7) the extension occurred by contiguity; and (8) the urine

showed the diazo reaction. He adds that in an early stage it might be possible after resection of ribs to scrape away the disease.—*Brit. Med. Jour.*

The Role of Iron in the Economy.—William Henry Porter, M.D. (*Amer. Med.-Surg. Bulletin*, November, 1895), says: The amount of iron needed in the body is very small. The average total amount found in the organism is less than thirty grains. Of this amount only about two grains are excreted daily. So if iron was surely absorbed when given the ingestion of two grains per day would keep up the right proportion and supply the loss. The iron in the food a person daily eats is seven to twenty-four grains, or sometimes twelve times the amount needed.

All the inorganic salts of iron and a large proportion of the organic combinations are disposed of in the intestinal tract—precipitated as sulphides by the alkaline sulphur combinations. The resultant iron sulphide is insoluble and passes off in the feces.

It is the general opinion of physiological chemists that synthesis is limited to vegetable life, and that the animal organism can not construct the complex organic combinations of iron from its various mineral salts, but must have them brought to it in the proper form. The vegetable nucleo albumin answers this requirement for a preformed organic iron combination, and it is the primary source of systemic iron.

Nucleo-albumin is an anabolic product of vegetable life. It is a complex proteid body, of the globulin series, to which phosphorus and iron have been chemically united.

All the iron in the animal economy is derived from the nucleo albumin of foods. This iron bearing nucleo-albumin is split up into simpler forms and partially oxidized into hemoglobin and lecithin. It is not yet known just where this transmutation occurs—probably, however, in the liver cells.

None of the organic salts of iron are ever absorbed and utilized in the system. This can be demonstrated by experiment. No amount of iron ingested will cause the same to appear in the urine. All will pass through the alimentary canal; be transformed into a sulphide, and all can be recovered from the feces.

The so-called albuminates of iron, loose mixtures of iron and proteid bodies must be placed in the category with the mineral salts.

From a physiological and experimental standpoint no form of iron, except the nucleo albumin in food stuffs, is used. This theory by no means antagonizes the fact that good clinical results are often obtained by the empirical exhibition of iron in anemia.

Practically there are three classes of anemias:

1. Anemia due to taking too little food, or food deficient in nucleo albumin.

This form is readily treated by readjusting the food in quantity and quality.

2. Anemia due to the introduction of sulphur compounds in the alimentary tract, or to digestive disturb-

ances that cause the liberation of H_2S from the albuminoids of the foods. The sulphur, having a great affinity for iron, combines with all comes in contact with, forming the insoluble sulphide. The iron is thus withdrawn from the proper path of usefulness.

In this condition chloride of iron is the remedy *par excellence*. This soluble form of iron easily and abundantly satisfies the affinity of the sulphur compounds. The sulphur is exhausted by combining with the chloride and the iron in the nucleo-albumin is left free to enter the circulation in the shape of hemoglobin.

All iron salts are changed with the chloride in the stomach. Hence the immediate administration of the chloride itself will obviate a certain amount of work on the part of the stomach.

3. Anemia caused by a more or less profound disturbance of chemico physiological processes, so that the nucleo-albumin of the foodstuffs is not properly oxidized and utilized. This class includes the anemias of infectious diseases, of diabetes, pernicious anemia, etc.

Here, of course, there is no indication for iron as long as the specific cause of the anemia persists.—EDGAR THOMPSON, M.D.

Pneumonia.—Dr. Douglas Powell (*British Med. Jour.*) notices that pneumonia, in spite of prophylactic and therapeutic measures, still holds the most conspicuous place among zymotic diseases.

While, at the present time pneumonia is by most authorities termed as infections, yet the etiology, including predisposing and exciting causes is not a simple question of the lodgment and growth of germs. The author says his ideas of the etiology can be comprised in a few general statements:

1. The disease does not seem to have any direct relationship to climate or latitude.

2. Pneumonia is especially prevalent at seasons of the year where there are sudden and great changes of temperature. Such changes have a depressing effect on the vital resistance.

3. The author says it is almost impossible to estimate the etiological worth of personal imprudence, but it is certainly a very important factor. Our social and business habits add to the natural vicissitudes of climate and hygienic surroundings, and we are often exposed to great changes of temperature as a consequence of office and other confining labors.

The writer urges that the fatalistic idea that pneumonia is acquired simply by the reception of the proper organisms has a tendency to enhance carelessness and diminishes the responsibility of personal imprudence. The experience of the author is that at least one third of the cases of pneumonia are precipitated by foolish and thoughtless disregard of simple precautions.

4. A certain number of cases (about 20 per cent) are directly due to a great and sudden depression of the surface temperature, or in other words a chill. Warm-blooded animals can, ordinarily, maintain an even warmth when the external temperature varies from one

extreme to the other. But under certain conditions the compensatory powers can, perhaps, be surprised and defeated by a sudden exposure and a chill will ensue with the extensive and remote vaso-motor and nervous reactions.

5. The author believes that periods of subnormal or depressed temperature are especially favorable to the growth of the specific germs, and he says that the most favorable temperature for the cultivation of most micro-organisms is at or a little below 98.6° .

6. While pneumonia is, without doubt, an microbial affection, yet it is not a simple infection and it depends to a certain extent on general conditions. There are three claimants for the honor of being the specific cause of pneumonia, viz: Friedlanders bacillus, Fraenkel's pneumococcus, and Klein's bacillus. The question of the specific germ has not yet been perfectly solved.

The treatment of pneumonia can not be summarized by appending a long list of drugs. It consists in certain principles that should dominate as a general treatment and the handling of emergencies.

The author states that in the beginning pyrexial stage, "with a dry skin, coated tongue, loaded excreta, disordered intestinal secretions, and tension of pulse," a routine saline and mercurial laxative treatment with liquid unstimulating diet and with the patient in an airy room with the proper degree of moisture is the most scientific procedure.

The fever of pneumonia, if within reasonable limits, is a normal condition of the disease, and, as a general rule, the prognosis is more favorable in those cases that have a marked fever (to 104°). The pyrexia is the result of microbial activity, especially is it due to the formation of ptomaines, toxins, and other products. These toxins as they accumulate inhibit and ultimately destroy the micro-organisms. The height of the fever is dependent on the rapidity of the production of these toxins. The germs, as stated, multiply best at the lower range of normal temperature and the fever itself has a great inhibiting influence on the micro-organisms. Finally, with all the fevers there is great leucocytosis, which increases the phagocytosis, or the removal of weak or torpid germs and germ products. For these reasons it is unwise to so vigorously attack a fever that is not of such a height as to be a menace *per se*.

The chemical antipyretics have no specific action, as quinine in malaria, but act by increasing the radiation of heat or diminishing the production of the same. This treatment can only be of great harm as it has no influence over the cause of the fever, and greatly weakens the natural powers of resistance and reaction.

When the fever ranges between 103° and 104° no special antipyretic measures are indicated in less than are unusual nervous phenomena as restlessness, delirium, etc., in which cases small doses of quinine with spongings with some exaportant will reduce the temperature to the desired degree.

When the temperature goes above 104° it becomes a danger, *per se*, by a direct destruction of tissue and a

paralysis of innervation, especially is the pneumogastric liable to be affected and through it the heart and lungs. In all such cases the application of cold (baths, pocks, etc.) is the proper treatment.

The routine practice of local applications, as poultices, etc., is to be discouraged. This use involves more or less restraint and fatigue of the respiratory movements. Where there is excessive pain, however, ice-bags are indicated.

The pain of pneumonia is due to two causes (1) the stretching of the lung capsule, and (2) pleurisy. The first is relieved by local use of ice. The pleurisy is best treated by blisters.

The great nerve shock of the first hours of pneumonia is best met with morphine. After this stage is past the drug is generally contraindicated as it diminishes the secretions and increases cyanosis. When there is great and acute delirium the liberal use of alcohol followed by the proper use of morphine and atropine subcutaneously gives the best results.

For excessive cyanosis oxygen is indicated.

Cardiac failure is the most serious complication, and it is produced by three conditions:

1. Impaired innervation of the heart muscles.
2. Impaired nutrition, from insufficient and badly aerated blood supply.
3. Mechanical tendency to overdistension of right cavities of the heart.

Strychnine and caffeine are the drugs that can be depended upon in cases of heart weakness and failure. It must be remembered that, in severe cases of pneumonia, the stomach is paralyzed and dilated and absorption ceases so that no immediate benefit but great ultimate harm would result from the introduction of repeated doses of strychnine. The best plan is to use the salt hypodermically.

The use of oxygen not only sustains the patient on a small respiratory surface but gives the heart rich aerated blood. The obstruction in the lungs may become so great that the right ventricle becomes overtaxed and distended, and the left ventricle becomes depleted. This may lead to a fatal termination. In plethoric people this distension may occur at the beginning or near the cervix and in these two conditions blood-letting is rational.

The author has not yet tried Klemperer's method of antitoxin treatment, viz.: To obtain serum from a convalescent case, by using a blister, and injecting the serum in a fresh case.—EDGAR THOMPSON, M.D.

Diphtheria of the Skin: Incubation Period.—Max Flesch (*Berl. klin. Woch.*) reports a case of diphtheria of the skin in which the period of incubation could be fixed with considerable approach to accuracy. A girl, aged 2½ years, was scalded on the right side of the face and over the front of the neck and trunk down to the umbilical level. The scald was more severe on the trunk than on the neck or face. The scalded surface was treated an hour and a half after the

accident with Lassar's salicyl vaseline (2 per cent), and covered with cotton-wool fixed by a bandage. There was slight fever on the second and third days; but the child did well, and on the eighth day the scald of the face and neck was healed and the dressings were not re-applied there, whereupon the mother kissed the neck where it was covered with young and tender epidermis. This occurred at 11 A.M. on August 10. The following morning the mother had a sore throat, and in the evening the diagnosis of diphtheria could be made with certainty. The mother's sister had diphtheria and her husband a sore throat on the following day. The child had not at any time sore throat, but on August 13, in the morning, there was a notable change in the appearance of the parts which had healed on the face and neck. A little above the right clavicle there was an area about 1½ in. in diameter which was white and swollen, and around it and extending on to the face the skin was edematous. Cultivations from the white patch yielded typical colonies of the diphtheria bacillus. The child was given two injections of antitoxic serum, and on August 16 the white patch had disappeared, leaving in its place a small granulating surface. Flesch considers that any other source of infection but the mother's kiss may be excluded. He comments also on the fact that the diphtherial infection did not extend to the granulating surface on the trunk, which was covered by serous effusion, but involved only the part of the original lesion which had become covered by epithelium. The diphtheria must have commenced in the child between 7 P.M. on August 12 and the morning of the following day—that is between fifty-six to seventy-two hours after infection. The child had subsequently slight paralysis of the palate.—*Brit. Med. Jour.*

Apolysin and Citrophen with Remarks on the Practical Usefulness of the Phenetidin Derivatives.—Under the names of apolysin and citrophen two combinations of phenetidin with citric acid have lately been clinically experimented with, and recommended (Dr. H. Hildebrand, of Elberfeld, *Centbl. f. innere Medicin*, Nov. 9, 1895). They differ chemically from one another in this, that in apolysin one molecule of phenetidin is combined with one molecule of citric acid with the production of H₂O; whilst in citrophen, on the other hand, three molecules of phenetidin are combined with one of citric, and without the production of H₂O. The relation of citrophen to apolysin is therefore like that of the lactate of parphenetidin to lactophenin. And this difference in chemical constitution determines the different physiological action of these two bodies.

My own experience on rabbits lead me to coincide fully with the conclusions of Dr. G. Treupel (investigations made at the Physiological Institute of the University of Freiburg, *Deut. med. Woch.*, 1895, No. 31), I agree with him in his emphatic warning against the unlimited use of citrophen which is identical with the ordinary citrate of phenetidin.

Apolysin has been recommended on the one hand as a more reliable and more rapid antipyretic and analgesic than phenacetin. In point of fact its poisonousness even when given by subcutaneous injection is much less than that of phenacetid. Even 8 og. ($1\frac{1}{2}$ grains) was well borne subcutaneously by white mice; there was no reaction; whilst even 8 og. ($\frac{1}{6}$ grain) of phenacetin was sufficient to call forth the characteristic phenetidid effects.

These experiments demonstrate the innocuousness of even large doses of apolysin when given subcutaneously, where of course, the product reaches the alkaline tissue fluids immediately. Its ready decomposition in the gastric juice seems to have led its first advocates to claim that its exhibition was contraindicated when the stomach was empty, or when there was hypersecretion. This contraindication need not be heeded if, instead of the strongly acid apolysin powder, the apolysin tablets are employed. These are composed of one part of bicarbonate of soda and two parts of apolysin, and they dissolve in water with effervescence. The solution tastes of bicarbonate of soda and does not react sour like apolysin, but slightly alkaline.

SURGERY.

A Case of Cut Throat, in Which All the Carotid Arteries and All the Jugular Veins on one Side Were Ligatured.—Perfusion of Saline Solution.—Recovery.—W. Thelwall Thomas, F.R.C.S., Assistant Surgeon to the Royal Infirmary, Liverpool; Demonstrator of Surgery and Surgical Pathology, University College, Liverpool, reports the following case in the *British Medical Journal*:

J. E., aged 45, was brought on a police ambulance to the infirmary on October 5, 1894, having attempted suicide half an hour before. We were conducting the outpatient clinic at the time, so there was no more delay. He was unconscious, deathly white in color, and pulseless; the lower jaw spasmodically dropping, with feeble inspiratory attempts. There was a deep wound in the left side of the neck (produced by a penknife). The sterno-mastoid and omo-hyoid muscles were divided, the internal jugular vein was cut through, its cut ends were collapsed and three quarters of an inch apart, the common carotid artery was cut into, but not divided. The thyroid cartilage was notched, and the external and anterior jugular veins severed. The perfusion apparatus and saline solution was sent for. Clamp forceps were immediately applied to the cut vessels, and one on each side of the aperture in the common carotid, from which a small spurt of blood, certainly not half a teaspoonful, was jerked out.

The left median basilic vein was exposed by an incision, to which the patient did not object, being "too far gone," and 20 ounces of warm saline solution slowly perfused. An ordinary glass syringe with a capacity

of 5 ounces was used, with india-rubber tubing attached to a canula in the vein. The effect was most marked. After 7 ounces he took a short, distinct inspiration, at 10 ounces a deeper one, and his radial pulse was now felt beating feebly. After 15 ounces his breathing became regular and deep; at 18 ounces he opened his eyes, but did not appear to be conscious. The clamped vessels were now tied with catgut, the wound cleansed with carbolic acid lotion, and dressed with cyanide gauze.

Thus far the treatment had been carried out on the ambulance, elevated at the foot. He was now wheeled to bed, surrounded by hot water bottles, and the foot of the bed elevated 18 inches. The house surgeon, Mr. McCormack, accompanied him, and remained by his side until we saw him an hour later, when he had sufficiently recovered to answer to his name, when called loudly, although he did so in a very squeaky voice. He rapidly improved in condition until October 27 (the twenty-second day), when a violent hemorrhage occurred, preceded a few hours previously by a small trickle, easily controlled by pressure.

The house-surgeon, assisted by his colleagues, at once opened up the wound, found blood oozing from the distal ends of the carotid and jugular, which were promptly clamped. My colleague, Mr. R. A. Bickersteth, who was in the infirmary, arrived in time to apply ligatures to the common carotid, which was not sound; this necessitated search for the internal and external carotid arteries, which were tied, and the internal jugular with a small branch entering it. The patient was very collapsed after this, but quickly rallied, only to suffer from another hemorrhage nine days later (November 5) from the internal carotid artery. The house-surgeon, Mr. T. H. Agnew, applied sponge pressure until our arrival, when on removing it no bleeding occurred, so we decided this time to rely on pressure, a sponge well sprinkled with iodoform under cyanide gauze, and a figure of 8 bandage of elastic webbing around the forehead and neck. A quart of hot water was injected into the rectum, all of which was absorbed, and acted most beneficially in reviving him. This dressing was removed in two days, and cyanide gauze only, used.

From this time he made a slow recovery and was discharged, but returned with a small sinus in the lower part of the neck, in which we found a catgut ligature; it was removed, and the wound quickly healed.

The result of all this interference in detail is found to be: weakness of the sterno-mastoid, paralysis of the trapezius owing to division of the spinal accessory in the posterior triangle of the neck; paralysis of the deltoid, due to injury of the brachial plexus; paralysis of the left vocal cord, due to division of the left pneumogastric; paralysis of the left hypoglossal nerve and a few filaments of the facial; division of the left sympathetic, evidenced by contracted fixed pupil and diminution of palpebral fissure; and, finally, when he coughs, a distinct hernia of the left lung into the root of the neck. Put thus in detail the list looks formidable, but the only symptom that causes any inconvenience to the

man is the weakness of the shoulder, which necessitates him doing light labor, of course, at less remuneration than his former employment. We do not feel justified in endeavoring to reunite any of the severed nerves in such a cicatrized neck.

We can not too highly praise the assistance rendered by Mr. McCormack and Mr. Agnew, house surgeons, on whom, of course with their colleagues, the success of the case really depends for their prompt treatment of the secondary hemorrhages, which might easily have proved fatal in less capable hands. The case is interesting as an example of what some patients can recover from. It teems with many important physiological points, and, as far as we can gather, the man has not altered mentally in the slightest.

Some Pathological Changes Produced by Serum Injections.—Dr. Visman (*Am. Med.-Surg. Bulletin*, December, 1895), takes an unfavorable view of serum therapy generally and declares that the indiscriminate introduction, in the human organism, of the blood serum of lower animals is an indefensible procedure. The injection of serum has in many instances produced serious consequences and reactions.

The author finds a great difficulty confronting him at the beginning of his investigations from the fact that serum therapy is as a rule only applied to organisms that have already undergone certain pathological changes and it is impossible to accurately differentiate the anatomical lesions coincident to the disease from those precipitated by the serum treatment.

The author has collected the reported cases of untoward action of serum. He cites the reports of several experimentors who found a fever reaction of one degree to three degrees followed by heart weakness and arrhythmic pulse, produced by the injection of horse serum. The effect was the same whether the serum was immunized or normal.

Cases of exanthema following serum injections are very numerous.

Paralyses, according to Heubner, follows in from 7.5 to 12 per cent, dependent on the number of the units injected.

Loewy and Richter experimented on rabbits and found a constant and great increase of leucocytes in the blood following serum injections.

The writer's own investigations on the lower animals led him to believe that renal lesions are produced and lesions are very much aggravated by the exhibition of serum.—EDGAR THOMPSON, M.D.

Fractures of the Neck of the Femur.—Sir William Stokes (*Brit. Med. Jour.*) is of the opinion that the prognosis of fractures of the upper end of the femur depends, to a great degree, on the condition of the fibro-synovial envelope of the cervix. This cervical ligament is the medium through which the blood is distributed to a considerable portion of the neck, and any contusion or laceration of this envelope is followed by

extensive and usually unfavorable changes in the underlying bone tissue.

The osteogenetic properties seems to be very limited, consequently, when the integrity of this so-called cervical ligament is impaired the subsequent process is one characterized by absorption rather than the deposition of new bone cells, as is the usual phenomenon in fractures. This is the probable explanation of the remarkable and rapid interstitial absorption of the cervix which takes place not only in fractures but also in cases where the original injury was simply a contusion or laceration of the envelope of the neck.

This fibro-synovial covering has the functions of periosteum, and when the circulation in it is diminished the nutrition of the bone is abridged and atrophy occurs.

Absorption and atrophy of the cervix, consequent on synovio-periosteal inflammation without fracture, have been observed.

The writer says that a senile alteration of the angle between the axis of the cervix and the shaft has no foundation in fact, and this theoretical change can not be adduced as the determining cause of the large ratio of fractured cervixes in old age. The author imputes this predilection to senile changes in the bone tissue itself.

The division of fractures of the neck into intra- and extra-capsular is held to be unscientific for the simple reason that a large majority of fractures are mixed—partly within and partly without the capsule. The question as to the fracture being extra- or intra capsular is of minor prognostic importance. The real conditions that are essential to the occurrence of osseous union are:

1. The integrity of the cervical ligament.
2. The existence of impaction of the two sections of the fracture, or the penetration of one into the other.
3. The site of fracture must be near the base of the neck.

The nutrition of the bone at the base is not so profoundly affected as in situations nearer the head. The differential diagnosis is important both as regards the patient's future and the doctor's reputation.

In fracture there is a usual history of "direct fall, followed by eversion, shortening, backward direction of the outer surface of the trochanter, occurring in the aged, marked pain along line of supposed fracture, diminished tension of extensor muscles."

In luxation there is a history of forced rotation inwards, which is a rare occurrence in the aged, usually inversion, great shortening, approximation of trochanter to ant. sup. spine, head of femur in an abnormal position, movements restrained, absence of pain on pressure, increased tension of extensor muscles.

In fracture of pelvic brim, head of bone is drawn upward and backward, detached part can be felt, crepitus, shortening, which recurs after limb is extended, and the power of eversion and abduction is intact.

In contusion the anatomical relations are undisturbed.

In a fracture of the neck the fragments are drawn asunder, thus limiting the chances of spontaneous union. The writer notes, however, that many surgeons hold an

opposite view—that the action of the muscles is to firmly approximate the parts. The best treatment is the one that secures absolute rest and proper approximation.

Too much extension is a display of bad judgment because a useless violent contest between muscles and mechanical force is thereby set up, "which is incompatible with rest, fixation and freedom from pain."—EDGAR THOMPSON, M.D.

The Operative Treatment of Simple Fractures.—In a discussion at the recent Congress of French surgeons, Berger (*Med. Moderne*), pointed out that in simple fractures in the shafts of long bones primary operation has not been seriously proposed except in cases of broken clavicle and leg. In fracture of the clavicle, except when this injury is complicated by vascular or nerve lesions, surgical intervention, it is held, is unjustifiable. The results obtained by ordinary treatment are very satisfactory with regard to function, and the swelling caused by the formation of callus can not be prevented by operation, and, after such treatment, is associated with a scar which is more objectionable than the deformity caused by the injury. In fractures of the leg, especially the oblique and so-called helicoid forms, an apparatus which will ensure consolidation without shortening of the limb has yet to be found. The cause of the partial irreducibility consists in the obliquity of the corresponding surface of the fragments, and in the action of the strong muscles at the back of the limb. Osseous sutures, Berger urges, would fail altogether to overcome these difficulties, and would add fresh risks and troubles. Callus obtained by osseous sutures is always more abundant and more sensitive than callus that is spontaneously developed. The presence in the interior of bones of metallic bodies may, moreover, be the cause of serious and persistent evils. Even the most obstinate forms of fracture of the leg may be treated successfully by careful management, and by refraining from the immediate application of a rigid apparatus such as a plaster-of-paris splint. Reduction should be effected gradually and progressively, and not until it has been rendered as complete as possible ought any immovable apparatus to be applied. Berger thinks that no surgeon is justified in exposing the seat of fracture in a leg with the view of placing the fragments in good position and of uniting them by wire suture, except in the very exceptional instances of persistent irreducibility due to the interposition of isolated pieces of bone, and of bands of ligament, periosteum, or muscle. With regard to articular fractures it is thought that only those of the elbow and knee, on account of the bad functional results so frequently observed after such injuries, should be subjected to primary intervention. Fractures of the elbow often cause persistent osseous deformity and restriction of movement in the forearm, but it is very doubtful whether such unfortunate results can be modified by osseous suture of the fragments. In condyloid fractures of the knee in which the fragments

are more superficial and offer better opportunities for the application of retentive agents, the use of pegs or metallic sutures is more frequently indicated. But, it is pointed out, as the danger of operative infection of the knee is so great, surgical intervention ought not to be advised except in cases of exceptionally extreme displacement which has resisted very energetic attempts at reduction. Berger excludes from this consideration fractures of the olecranon and patella.—*Brit. Med. Jour.*

NOTES AND ITEMS

Officers of the St. Louis Medical Society for 1896.—At the meeting of the St. Louis Medical Society, December 28, the following officers were elected for the ensuing year: Dr. W. G. Moore, President; Dr. A. C. Robinson, Vice President; Dr. A. Kieffer, Treasurer; Dr. J. E. Jennings, Recording Secretary; Dr. J. C. Cummings, Corresponding Secretary.

The Minneapolis College of Physicians and Surgeons has been consolidated with the Hamline University.

"The College and Clinical Record" will be hereafter known under the name of *Dunghison's College and Clinical Record: a Monthly Journal of Practical Medicine*.

Appointment of Dr. Thompson as City Dispensary Physician.—Dr. Edgar Thompson has been appointed physician at the City Dispensary. Dr. Thompson is one of the promising young doctors of this city, and his new appointment has been a wise one; the position could not have been filled by a more capable and deserving gentleman.

Chicago College of Physicians and Surgeons.—Representatives of the Chicago College of Physicians and Surgeons are conferring with the Board of Trustees of the University of Illinois regarding the annexation of the medical school to the University, a project which has been under discussion the last two years by stockholders of the College of Physicians and Surgeons.

Teichmann-Peterson.—The marriage of Dr. Wm. C. Teichmann, the City Chemist, to Miss Peterson, of Chicago, took place Saturday, December 28, 1895, at the Second Methodist Church, Chicago. Dr. Teichmann enjoys an excellent reputation professionally and socially. We take this opportunity of extending our sincerest congratulations and best wishes for happiness, success and prosperity to the newly married couple.

Fake Hospitals in Chicago.—A Chicago correspondent has informed the *British Medical Journal* that a crusade has been started against the so called "fake" hospitals which have come into existence of late

years. To the end of effectually getting at the evil, the Council has had presented an ordinance as follows:

SECTION 1.—That it shall be unlawful for any person, firm, association, or corporation other than the regularly constituted authorities of the State of Illinois, or the county of Cook, or the city of Chicago, to open, conduct, manage, or maintain any hospital as hereinafter defined within the corporate limits of the city of Chicago without first obtaining a permit therefor, to be issued by the Commissioner of Health of the city of Chicago, upon the written application of such person, firm, association, or corporation, which application shall state the location, or proposed location, of such hospital, the purpose for which it is to be opened, conducted, or maintained, the accommodations, or proposed accommodations for the inmates thereof, the nature and kind of treatment given or proposed to be given therein, and the name and address of the chief surgeon, physician, or intended chief physician or surgeon attendant thereat.

SEC. 2.—It shall be the duty of the said Commissioner of Health, upon the presentation of such application, to make or cause to be made strict inquiry into the facts set out in such application, and if upon such inquiry he shall find that such hospital is or is intended to be constructed so as to afford proper accommodation for the care of the persons received or proposed to be received therein, or that the chief physician or surgeon, or intended chief physician or surgeon attendant thereat, gives or is under agreement to thereafter give such attendance thereat as does or will render him responsible professionally for the medical or surgical treatment given or to be given to any and all persons thereat, and that such chief physician or surgeon is regularly authorized to act as such under the laws of the State of Illinois, and upon the payment to said Commissioner of Health of a license, permit, inspection, or examination fee of—dollars, he shall issue a permit in the name of the City of Chicago to such applicant to open, conduct, manage, or maintain a hospital at the place and in the manner and for the purpose in such application mentioned, which said permit shall cease and be operative the 31st day of December next following the issue thereof.

SEC. 3.—It shall be the duty of such person, firm, association, or corporation permitted as aforesaid to open, conduct, or maintain a hospital within the corporate limits of the city of Chicago to make a report to the said Commissioner of Health on or before the 5th day of each calendar month, showing a complete record of such hospital during the preceding month, including the number of inmates received, discharged, and died during the month, causes of death, and such other information as may be necessary to an intelligent sanitary supervision of the establishment; such records to be furnished on blanks prepared and supplied by the Commissioner of Health, verified by the affidavits or affirmation of the chief physician or surgeon or superintendent attendant thereat.

SEC. 4.—Every hospital permitted as aforesaid shall at all times be open to the inspection of the said Commissioner of Health, or his duly appointed assistants or inspectors.

SEC. 5.—The Commissioner of Health of the City of Chicago is hereby authorized and empowered to inspect or cause inspection to be made, whenever and as often as he may deem proper, of any hospital permitted as aforesaid within the corporate limits of the city of Chicago, and if, upon such inspection, he shall find the same to be conducted, managed, or maintained in violation of the terms of the application for the permit under which the same was opened, conducted, managed or maintained, or in violation of any of the health or sanitary ordinances, rules, or regulations of said city of Chicago, then and in that event he is hereby authorized and empowered to revoke any such license issued for the opening, conduct, management, or maintenance of the same.

SEC. 6.—Any person or persons, or corporation other than the regularly constituted authorities of the State of Illinois, county of Cook, or city of Chicago, opening, conducting, managing, or maintaining a hospital as hereinafter defined within the corporate limits of the city of Chicago without first having obtained a permit therefor as provided in Section 2 of this ordinance, or after a revocation of such permit under the authority conferred in Section 5 of this ordinance, or in violation of any of the provisions of this ordinance, shall be and is hereby declared to be guilty of maintaining a nuisance, and upon conviction thereof shall be fined in a sum not less than ——— dollars nor more than ——— dollars.

SEC. 7.—For the purpose of this ordinance a hospital is hereby defined to mean any place or establishment used for the reception and care of the sick, injured, or dependent, including women awaiting confinement or used for the medical or surgical treatment of mental or physical disease or injury.

SEC. 8.—This ordinance shall take effect and be in force from and after its passage and due publication.

Cycling and the Saddle.—We are in receipt of numerous letters asking our opinion regarding the influence of cycling upon health.

For women the art of wheeling is peculiarly adapted. The majority of women, while not actually diseased, suffer from chronic pelvic plethora, which the exercise speedily relieves. It also strengthens and develops the muscles of the abdomen, rudimentary in most cases, and obviates a tendency to adiposity.

It has been urged that the bicycle saddle produces injurious pressure upon the prostate gland and female pudendum. This objection has been removed by the introduction of the Christy Anatomical Saddle, that is sold by A. G. Spalding & Bros. We are in no way interested in this article, but a pleasant experience in its use constrains us to advise wheel riders to use this or some similar invention.

MEDICAL REVIEW,

A WEEKLY JOURNAL OF MEDICINE AND SURGERY.

VOL. XXXIII.

ST. LOUIS, JANUARY 11, 1896

NO. 2

ORIGINAL ARTICLES

The Physician—A Civic Factor.

BY W. S. PHILLIPS, M.D., BELLE CENTRE, OHIO.

Read before the Ohio State Medical Society, Columbus, Ohio,
May 15, 1895.

Before I became so busily engaged in the practice of medicine as to be unable to get sufficient time to eat and sleep, I played the violin in an orchestra. It was not the "second fiddle" either.

We had an occasional selection that is called a medley and which consists of a number of short selections the composition of other minds than that of the author strung together like beads on a string with a little intervening embellishment by the latter.

I have often noticed when any one made any substantial additions to the literature of medicine in the way of inventive genius, new facts or correct conclusions drawn from old ones, some one is almost sure to bob up serenely and begin shouting "priority" at the top of his voice. Thereupon ensues a wrangle about as edifying as a dispute between a pair of ancient and honorable "deadbeats" over the truth or falsity of an anecdote related to me by the biggest liar in Logan County.

Despising as I do anything in the line of family controversy I would prefer that my paper be christened "a medley" which gives me room for some artful dodging and the "priority" man a chance to pocket my genius without the usual struggle.

My conception of a state is that of a unit made up of a variety of interests each one of which is the natural and legitimate coefficient of all the remainder. That these interests can exist and progress without friction the one with the other presupposes a certain amount of self denial on the part of the individual representatives of each. The interest represented by the physician is a common one and one for which he asks for the surrender of no personal right except as it may subserve the common good.

The foundations of the present civilization were laid over two thousand years ago and from that day to the

present the predominant idea in the mind of the legislator and the statesman has been the pockets and the property rights of his constituency. The lesson ought to have been thoroughly learned long ere this.

Other questions in the last half century such as education and questions of moral import have been assuming a tangible shape, but the doctor in his field in the State of Ohio has failed to impress society with the necessity of intelligent care for their bodies through the channel of State supervision and with this idea of the standard of excellence which it is desirable he should attain.

We have been treating this case symptomatically long enough and it is wholly relevant at this juncture to institute a bureau of inquiry to ascertain the cause that the remedy may be intelligently applied—applied in the interests of good citizenship and by those loyal to the best interests of humanity or that phase of it for which they are best fitted by education and modes of thought.

It is the business of the physician in his professional capacity to look after the physical well being of society and it is far more comprehensive than the popular estimate which is that of prescribing powders and pills.

To say of a man after his career has been brought to a close that he was a good doctor is not putting it very much stronger than did the friend of the dead Dutchman when he said of him, "He was a jolly smoker" for the reason that he of necessity is a member of society and must either assume his responsibilities as such or exist simply as a sort of cormorant for his own gratification contributing nothing to the common fund of improvement or profit.

If age lends dignity and experience begets wisdom surely the profession of medicine can lay claim to both and those who honestly and conscientiously devote themselves to this branch of human knowledge are entitled to the same consideration if backed by culture, stamina and personal worth.

It is a good thing for a physician to study himself individually, and as a representative of one of the factors of society to take in the whole landscape as it were with the mass of struggling humanity and see wherein the world has been made happier and better by his labors. It is not wholly a matter of private gain, though that is an excellent stimulus to work, nor of individual greed as that shuts one up in a little world of his own.

I trust I may not be understood as making any wholesale accusations, for I love the brethren, but as painting

a picture of the fellow everybody knows and who is responsible for the estimate in which physicians are held and who can not be lifted to the plane of his compeers except by legal enactment and who forms but a shaggy tail to the main body of the profession impeding the wheels of progress by catching upon the brambles by the wayside, or dragging in the mire which he scatters hither and thither defacing the good impressions and marring the good influences otherwise made. The best way to purify the soul is to make confession.

If we, in our imagination, examine the picture carefully, we see the world has but little confidence in the physician. Wherever he is referred to in literature it is usually with a sneer at his calling. The press seems to consider the whole thing as a huge joke and pokes no end of fun at us.

The invalid thinking the farther away a physician lives or the larger the city in which he is to be found (a delusion the latter also fosters) the larger the brain and greater the skill he possesses

From Belle Centre he goes to Bellefontaine and from Bellefontaine he goes to Columbus and Cincinnati and from Cincinnati and Columbus he goes to Philadelphia and New York and from Philadelphia and New York he goes to Germany where he is first scalped (I use the term as a sort of refinement of the practice of the *American* savage in time of war), then he is microbed and microscoped and finally telescoped into eternity, but on account of the distance away it has been done scientifically, the friends pay the bill and are satisfied.

We see the majority of people have but little concern about the mental qualifications or moral life of their usual medical advisor. A few effusive compliments even from a heart reeking with moral turpitude is a far better basis of future confidence than a whole lifetime of upright conduct and scientific research.

I have always felt that the fact that I had been reared in a Christian home and with an honest endeavor to exemplify the principles imbibed there during my childhood and youth was the poorest recommendation I ever brought into a Christian community.

Carrying the imagery a little further we again examine the picture and see the physician at work.

Consciously or unconsciously he is being moulded to fit the requirements of the community in which he lives because it pays. He agrees with everybody's opinions upon the subject of politics, morals and religion.

He joins one of the churches of the neighborhood and patronizes all the remainder "for revenue only."

He is *par excellence* what the old lady designated her husband a "jiner."

He associates himself with every order organized ostensibly for the general good of its members to the exclusion of the common herd thus making a travesty of human benevolence as well as offering insult to the church of the living God.

He instructs his patrons in the best methods of preventing conception as well as assists in the destruction of a germ that would otherwise develop into immortal

man. He writes prescriptions to help both the drunkard and the saloon keeper evade the law.

Joab-like he takes his cousin Asahel by the beard, implants a kiss upon his lips stabbing him at the same time under the fifth rib.

He magnifies little things that he may appear great by comparison. He explodes upon every possibly occasion emitting a shower of linguistic gymnastics, like a pyrotechnic whirligig and which constitute his entire stock in trade.

He dabbles in the slimy pool of politics that he may gain preferment in the way of securing an appointment that a little medical knowledge will enable him to hold.

You see him strutting up and down the neighborhood in which he lives in a rut worn so deep that there is nothing to be seen of him at the distance of a square away but the crown of a silk hat very old and very shabby. To-day, after more than a quarter of a century since its author has openly acknowledged the sin of his error in every city and village or hamlet where there are a half dozen physicians congregated, some of them are yet treating typho-malaria fever and fifteen years after Gen. Woodward's disclaimer I was instructed in one of our State institutions by a State appointee as to its pathology and differential diagnosis.

This leads up to a criticism of the medical teaching of the past few decades. The student of medicine is looked upon as a sort of steel trap into whose teeth is flung an aggregation of what is accepted as facts expecting him to grasp and utilize them in his work. He does utilize them and too often continues to utilize them and in ten years time he becomes a back number and remains an obsolete figure during the remainder of his days; or he in turn tucks them away in an artificial receptacle on either side of his maxillaries which gives him only the appearance of wisdom, being then ready for an onslaught upon a credulous public through the columns of the newspaper. The exact circumstances under which the facts were presented recur but seldom in the lifetime of any individual, therefore a proper conception of an ideal preparation for the practice of medicine is the cultivation of habits of study and investigation, keen observation and acute perception, sound reason and good judgment or in other words to create the ability to prove all things and hold fast to that which is good, together with a knowledge of the elementary principles upon which our science is founded and upon which any well-rounded and well-developed man can rear a magnificent structure as the result of his lifework.

Taking a last look at the picture you see him in the halls of legislation in the capacity of a lawgiver, being guided by the same motives. But this same Moses has forgotten to eliminate every principle of selfishness out of his being and while the eyes of a waiting people are riveted upon him he is being weighed in the balance and found wanting.

He is not now doing a work the three-fourths of which is known to no one but himself but one that must

be reviewed by a competent tribunal and upon which its members are capable of passing intelligent judgment.

An intellectual and moral force in the world in order to carry weight with its teaching must possess the consciousness of character, but the excrescences herein portrayed robs the profession of that consciousness and renders abortive almost every attempt in lines auxiliary to their work and in which its members are interested as citizens.

When the inducement to excel is of a monetary character or that which procures fame, men will bend every energy to accomplish the desired result, but ours is philanthropic and moral and in consequence too often fails to develop the best energies in mankind on account of lack of proper motives.

Notwithstanding these discouragements the physician has accomplished much not only in the way of mitigating human suffering and death through the medium of State authority, but much remains that ought to be done some of which we will specify briefly.

The first is to bring, if possible, the medical service of our benevolent and reformatory institutions under State regulations similar to that known as "civil service." That this service is made the subject of rise and fall with the tide of political fortune is the regret of every honest physician and works only evil for the reason that it takes away every inducement to excel, and makes the service liable to every abuse that the mind of man can conjure. The standard of availability ought to be judged from the standpoint of the physician rather than that of the practitioner.

Again, physicians owe it to themselves and to society to rescue the question of expert testimony from its present status of ignominy.

Expert medical evidence is the one thing that brings the blush of shame to the cheek of every honest man, coming as it does from among the best intellects of the profession it is used largely to overbalance the scales of justice on the side of wrong and proves one of two things, either that men are incapable of rendering an unbiased opinion when a good fat fee is in prospect or that medical opinions are to be bought and sold like so many stocks and bonds in the market.

But the great work of the physician in his civic relations is to instruct the commonwealth how to secure immunity from disease

The European receiving the proper recognition from his government has labored faithfully and while time has failed to confirm the correctness of some of his conclusions, substantial progress has been made and brilliant results have been secured.

But the tripod of human woes that confront the people of Ohio to-day is crime, drunkenness and consumption, to be remedied I believe in part through the processes of generation—reference being made, of course, to the legal aspects of the case. Considered from a sentimental standpoint the proposition seems rather cool and calculating, but who can combat its logic?

What is the sense of the State issuing to a habitual

criminal a license to marry, thus sanctioning the production of an offspring that is almost sure to follow in the footsteps of their ancestors, or to a syphilitic, or an inebriate or dipsomaniac, that his progeny may only fill our almshouses, our asylums and our penitentiaries?

But the consumptive has committed no crime against the State, and the fact of his existence is no fault of his own. It is simply a question of whether his existence is a menace to society to be dealt with on the ground of expediency.

It seems to me that the facts do not warrant the assumption that he is to any serious extent outside the limits of home life where exposure is continuous under all the mental and physical vicissitudes with its consequent variation in the processes of nutrition of which the human body is capable. However, if the facts of observation teach us anything it is that wedlock with a tuberculous subject is only a sort of death trap in a large percentage of cases into which people enter unconsciously and innocently. The physicians' advice is seldom if ever treated seriously by the candidate for the marriage relation for the reason that he is being impelled by motives of sentiment rather than sense, so that the moral influence of the physician in this direction goes for practically nothing and whatever is to be gained must be through the channel of legal restraint.

It is humane to protect ourselves from needless exposure to danger and we at least go through the form of inspecting immigrants in order to exclude the pauper, the criminal and the victim of contagious disease from our shores forgetting the weightier matters of the law that are idiopathic and it would be only justice if society would insist that he who embarks upon the tempestuous sea of matrimony should carry with him the evidence of a clean bill of health that he do not scatter along the track of his voyage moral and physical pestilence to the third and fourth generation.

A New Method of Estimating Albumen in Urine.—Riegler (*Wien. med. Blatter*), brings forward a new and rapid method of estimating albumen by means of the refractometer. It depends upon the power of his new reagent, asaprol, to precipitate all albuminous substances in acid solution; the precipitate is soluble in weak caustic soda or potash, and the refractive index of the solution bears a direct relation to the amount of albumen present. In practice the asaprol (10 per cent) is made up with 10 per cent concentrated hydrochloric acid. Exactly 25 per cent of decinormal potash solution are used, and added to the precipitate resulting from the mixture of 5 c.cm. of asaprol solution with 50 c. cm. of urine. The refractive indices of the resulting fluid (after filtration) and of the potash solution are determined by Pulfrich's refractometer, and their difference divided by 270 gives the exact percentage of albumen present. The coefficient 270 was determined by Riegler as the result of experiments on measured quantities of albumen.—*Brit. Med. Jour.*

MEDICAL REVIEW.

EDITORIALS

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PUBLISHED UNDER THE AUSPICES OF THE
MEDICAL REVIEW ASSOCIATION

BY O. H. DREYER.

YEARLY SUBSCRIPTION, \$3.50. SINGLE COPIES, 10 Cents.

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All letters whether intended for publication or not must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of the meetings of their respective societies, and of officers elected.

Members of the profession who send us information of matters of general interest to our readers will be considered as doing them and us a favor, and we shall take pleasure in inserting the substance of such communications.

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Entered at the St. Louis Postoffice as Second-Class Matter.

The Newly Appointed Committees of the St. Louis Medical Society.

In this issue of the REVIEW will be found the names of the gentlemen constituting the various committees of the St. Louis Medical Society appointed by President Moore. They are all familiar names and names which are indicative of the present impartial, unbiased and just administration. The committees constitute in our judgment an absolute guarantee that in their hands the affairs of the Society will be discharged in a spirit of fairness and justice and that in all their transactions the best interests of the Society will be the only guide, motive and impulse of action.

The meetings of the Society should be exclusively for the interest of science and the welfare of the profession in general and the St. Louis Medical Society in particular. In this sense Dr. Moore also ex-

pressed himself in his usual, characteristic, sincere, artless and logical style when he delivered his Presidential Address.

The time has arrived when all the petty little schemes and plots should be abandoned and the meetings exclusively devoted to earnest and honest work. We could not express our views and convictions better than by using the plain and artless words of the President's address which were, in effect, that the Society should take care that no "good men" could in the future be debarred from becoming members of the Society, but, on the other hand, it should also assiduously see to it that all "bad men" be "kept out."

While we do not wish to expatiate inordinately upon the promising future of the Society, we consider it our duty to give utterance to our convictions, which appear to be also those of all our colleagues and fellow-members that the year 1896 promises to be a most prosperous one in the annals of the St. Louis Medical Society and that as long as the Society will be guided by men possessing the attributes of its present officers and of the members of the various committees, its truest and most real success will be assured.

The Publication of the Proceedings of the St. Louis Medical Society.

The quantitative and qualitative importance of the transactions of a society which can boast of being the only truly representative society of this city and which counts among its active members the greatest lights in St. Louis medical firmament, makes it obligatory to every member to supplement the efforts of the present editor of the proceedings of the St. Louis Medical Society in furnishing these proceedings as early as possible. In his annual report the editor of the proceedings, Dr. Fuchs, called the attention of the Society to the fact that in many instances a delay of furnishing the proceedings for publication in this journal was due to the fact that some members were derelict in their duty of turning the papers over to the Secretary immediately after they were read before the Society, and that, in consequence of this fact, in addition to a three weeks' sickness as well as the pressure of other duties, it had happened that he was six weeks in the rear in furnishing the transactions of the Society for publication.

Knowing the importance of the expeditious publication of the proceedings to the readers and their patients, not to mention the very natural and pertinent wish of many members of the Society that the products of their original thought and investigation and their inventions should be promulgated with the greatest possible dispatch, we have often suggested to the very able editor of the proceedings to turn over for publication the discussions of papers in those cases in which the papers themselves could not be obtained by him until later.

We will admit that, as the editor claims, the discussions can not be so well understood without having read

the paper and that they would consequently be less intelligible and of less value. But, however true this may be, it is plain that a great injustice is done to those who do turn over their papers to the Secretary promptly and who do wish to have them published at once. The latter are therefore, as matters stand at present, "involuntary martyrs" on account of the negligence of those members, who keep their papers, against the rules and decision of the Society, some time after they have been read.

To our mind this state of affairs appears exceedingly unjust and there certainly appears to be an easy way out of the difficulty. For instance, we would suggest that in the future the editor of the proceedings of the Society be present, as much as possible, at all the meetings, so that the discussions of the papers would be more intelligible and that thereby he would be enabled to edit the proceedings promptly and, if absolutely necessary, without the paper, which might, under such exceptional circumstances, be published later. This is an important matter and we consider it our duty to draw the attention of the Society, as well as of the newly appointed publishing committee, to the possible means and methods of securing a prompt publication of the proceedings.

There is another important point with regard to the publication of the proceedings of the Society to which our attention has been called by representative men in the profession, members of the St. Louis Medical Society, who are experienced as physicians as well as in literary pursuits, namely, that in the publication of the proceedings each subject should have a separate caption, so that the readers will notice at a glance the various subjects discussed at the respective meeting and may thereby be enabled, without loss of time, to pick out what is of most interest to them or what may be pertaining to their special lines of practice. This latter suggestion we would also respectfully submit to the judgment of the members of the Society in general and, particularly, to the publishing committee and the editor of the proceedings.

Carbolic Acid Poisoning.

Among the accidental poisonings that have been reported those due to the swallowing of carbolic acid by mistake are not infrequent. The taking of carbolic acid with suicidal intent is also an occurrence for which coroners and physicians are occasionally summoned. The macroscopic changes of skin and mucous membranes with which the acid comes directly in contact are familiar to every practitioner; it whitens, corrugates, hardens and anesthetizes the skin and mucous membranes with which it comes in contact in the more or less concentrated form. It has been observed by competent authorities that a fatty degeneration of the specific parenchyma of the kidneys and liver takes place upon the absorption of the acid into the circulation and

its use as an antiseptic is contraindicated in surgical cases where the kidneys are diseased or "vulnerable." Among the more recent reports of pathological changes due to carbolic acid poisoning we find a short article in the January number of the *Brooklyn Medical Journal*, from the pen of William Moser, M.D.:

"In five autopsies of carbolic acid poisoning seen by the author, the gums, tongue, and in fact the whole mouth, were colored white. As one would naturally expect, this discoloration affects the whole alimentary tract. The mucosa of the esophagus in the cases under observation was smooth and white and could be easily stripped from the muscularis. The mucosa of the stomach was white, with quite prominent rugæ. In opening the stomach, the odor of carbolic acid became manifest. The intestines, too, were markedly discolored. The kidneys showed, in one case, principally interstitial changes; in the others, the parenchyma of the organ was mainly involved. According to Neumann, Bruckmueller, and others, fatty degeneration of the cells of the liver and kidneys is a constant pathological accompaniment in poisoning by this acid, changes, then, similar to what occur in phosphorus and arsenical poisoning. The author was unable to confirm this, nor are they confirmed by the observations of Salkowski. The author doubts if there is any lesion peculiar to carbolic acid poisoning. In three of the cases the lungs were congested and edematous. The remaining internal organs presented no lesion which could be ascribed to the acid. Carbolic acid is eliminated in the urine, to which its colored derivatives impart a green, brown or black color. The vomited matter is brownish or greenish by reflected light, and has the odor of the acid. Under the microscope, corpora amylacea, fat bodies, small and large, epithelial cells, large flat cells, yeast fungi, sarcina ventriculi, a few red and white blood cells, blood crystals and pigment, and in dried specimens fatty needles, were seen. But the most striking picture under the microscope is the extraordinarily large number of muscular fibers. Most of these fibers were normal in appearance, but in a few the tissue was granular and fatty. They were yellowish in color. While a muscular fiber may be seen now and then in vomited material from varied causes, and is not infrequent in poisoning by other acids, yet it is doubtful if in any other condition more fibers, or in fact as many, occur."

The comparatively frequent occurrence of carbolic acid poisoning makes the subject one of much interest to the general practitioner. Luckily in cases of accidental poisoning, which usually occurs among children, only the mouth, tongue, fauces and epiglottis seem to be affected; for the child very promptly tries to rid itself of the burning fluid by violent spitting efforts. There are some cases, however, in which esophageal strictures as well as severer consequences are the result and even a lethal exit is an event with which many practitioners become unfortunately sooner or later familiarized. Contributions on this subject are therefore timely, useful and interesting.

As to the therapeutic measures that are to be adopted in carbolic acid poisoning, those mentioned in the standard text-books do not appear to have been improved upon recently.

The American Journal of Ophthalmology.

We are pleased to learn that the *American Journal of Ophthalmology*, which, with the January number, enters upon its thirteenth year of existence, is from now on under the sole and absolute control of its editor, Dr. Adolf Alt. In the endeavors of the editor to maintain and further the standing of the *American Journal of Ophthalmology*, he will be assisted by Dr. J. E. Jennings, of this city, and a staff of able collaborators.

One of the additional features of the journal will be, among other improvements, a series of papers on original investigations, illustrated by micro-photographs.

The *American Journal of Ophthalmology* has made an enviable reputation within the twelve years of its existence, and we may safely predict its constant growth in usefulness and popularity under the able and energetic editorship of Dr. Alt.

BOOK : REVIEWS

Books reviewed in this column may be obtained, post-paid, by addressing the publisher of this journal, and remitting the quoted price.

Annual of the Universal Medical Sciences.

A Yearly Report of the General Sanitary Sciences Throughout the World. Edited by CHAS. E. SAJOURS, M.D., and Seventy Associate Editors, Assisted by Over Two Hundred Corresponding Editors and Correspondents. Illustrated With Chromo-Lithographs, Engravings and Maps. In Five Volumes. Philadelphia, New York, Chicago: The F. A. Davis Com'y. London: F. J. Rebman. Australian Agency: Melbourne, Victoria. Price, Cloth, \$15.00; Half Russia, \$20.00. 1895.

In the present period of rapid medical progress the possession of an annual like the one before us is of the greatest importance to every practitioner and writer in medicine. All the new and valuable additions to medical science during the past year have been conscientiously compiled in this excellent work by well-known men in the medical profession; every article giving such new facts or "new light on old facts" as have been reported in medical literature and found of sufficient value to be preserved in the form of an annual digest by a corps of seventy most competent and representative editors. All that is found in the Annual is "new in literature" or has

been lately discussed. The advantage of having access to a work in which the essential truths have been picked out from the vast mass of material contained in all the last year's journals and books of the civilized nations, and in which the respective editors have endeavored to throw the newest light upon the various subjects, can not be overestimated and needs no further comments or recommendations.

The preceding volumes of the Annual speak eloquently for themselves and those of 1895 are more than the equals of their predecessors.

TRANSLATIONS.

BY EDGAR THOMPSON, M.D.

The Complications in Hypertrophy of the Prostate.—The necessity for the frequent and regular use of the catheter in cases of hypertrophied prostate becomes a great source of danger from infection and cystitis, especially when the patient must perform the catheterization himself (*Revue inter. de Médecine et Chir. Pract.*). When infection occurs the treatment must be heroic. Frequent catheterization and irrigation with antiseptics must be practiced. In some cases permanent drainage will have to be established by leaving a catheter in the urethra for long periods. This constant drainage, as a rule, will cause a general amelioration, and improvement. In some cases, however, the catheter is insufficient and suppuration progressively increases. In such active intervention, viz., cystostomy may be the proper treatment. General treatment is a necessary accessory. The pain must be relieved by opium and belladonna suppositories, hot baths, etc. Hypnotics are indicated.

Another very frequent complication is hematuria. This occurs with the period of acute retention. Here all handling must be in the most unirritating manner. A soft catheter must be used and its size must be as small as possible. The urine must be drawn off very slowly for a sudden evacuation sets up muscular contraction and the bleeding is greatly increased. The hematuria is best treated by hot injections, hypodermic use of ergotin and morphine, and frequent instrumental evacuation. If the bladder is full of large blood clots they must be removed by a large aspiration. This, paradoxical as it may seem, gives most excellent results in practice. In a word the best treatment for hemorrhage is absolute rest of the bladder and this is accomplished by not allowing the urine to accumulate. Drainage by cystotomy is the *dernier resort*.

Nephritis sometimes arises in cases of prostate hypertrophy. The common methods of stimulating the skin and intestinal tract in order to eliminate the toxic bodies in a compensatory manner is the habitual treatment.

The radical cure is one which will restore normal micturition. When a radical cure is contemplated the

bladder must be carefully examined to see if the muscles have lost their contractility. If the wall of the bladder is inert and does not contract to expell the urine all operations will have a most chimerical result. It must be remembered that the pathology of hypertrophy of the prestate is a sclerosis of the vessels, and this is only a part of a general arterio sclerosis. The vessels in the bladder wall are likewise involved and this with the atony from constant distention makes paralysis of the bladder as an almost invariable symptom of the prostatic hypertrophy. If there is paralysis an attempt at radical cure will surely fail.

The radical operations have been many. The prostatectomy has been performed through an abdominal incision (Trendelenburg) and by a perineal out (Harri-son). Both methods contemplate a removal of part of the body by an ecraseur. Lately Waldeyer has proposed an operation by exposing the body through a resection of the symphysis pubis. The results of radical cures have been encouraging, if performed at an early date.

Ligature of the internal iliac arteries has been suggested on the theory that the prostate deprived of blood will atrophy. The author states that the extensive field supplied by these arteries makes them too important to ligate.

Ligature of the vas deferens has been performed. This is a physiological castration; and is a very rational treatment. The spermatic cord has been ligated for the same reasons. These operations are less dangerous than anatomical castration. Double castration is the surgical treatment in the best repute at the present time. This idea was first acted upon by Dr. Lannois in 1884. He found, by a large number of experiments, that the removal of both testicles caused a marked atrophy of the prostates. Of late years this operation has been performed by many surgeons and the results are very pleasing. If the surgical intervention is not delayed immediate benefit frequently occurs; the cystitis will disappear and natural micturition will return.

The success of the double castration depends on the date of the operation. If the testicles are removed before there is stony of the bladder wall success will gratify the patient and operator.

But castration in the very latest stages is sometimes indicated when the obstruction renders catheterization almost impossible and accompanied with hemorrhage and extreme pain. Here an operation causes atrophy of the prostate, which makes life much less miserable for the patient. Unilateral castration gives only partial benefit.

Hysterical Skin Lesions.—All the lesions of the skin that are caused by or connected with hysteria belong to the category of trophic nerve changes (*La France Medicale*, Dec. 13, 1895). The manifestations consist of eruptions of various sorts, edema of the skin and subcutaneous tissue and gangrene. These trophic changes are frequent phenomena in hysteria in the male.

As a rule the skin lesions are not primary symptoms but supervene after the hysterical state is firmly established.

Edema due to hysteria has been seen by many clinicians and the characteristics are sufficient to differentiate a hysterical lesion from lesions due to tabes, from spontaneous gangrene, from changes due to decubities, etc.

Hysterical edema is generally unilateral. In some cases the edema is universal, in which the color is always white and the color is not changed by finger pressure. The edema is in most cases localized on one or both limbs, upper or lower, and it presents a bluish or violet aspect. Sometimes, as was observed by Damaschius, the color may be of a red tint. The main diagnostic importance of the color of the edema is that the local temperature varies. In the white edema the color is normal. In the edema which have a rose or red tint the local temperature is always elevated. In the blue edema there is a constant lowering of the local temperature.

In the cases of hysterical edema there are generally disturbances of sensibility. Charcot has noticed a condition of thermo-anesthesia in many cases and hyperesthesia in others. There are frequently painful sensations.

In some cases of paroxysmal hysteria the edema appears and disappears with the coming and going of the paroxysm, but after a certain time the edema becomes permanent.

The edema is the first stage of hysterical skin lesions and the ulcers, gangrenes occur on the edematous focus. The formation of gangrenous spots is preceded by bullæ, which, losing their epidermal covering, are easily transformed into ulcers.

The following is a history of a case from the author's clinic: Mr. —, age 22 years; almost all of his near relatives were hysterical in one form or other. Patient had a large ulcer on the left leg near the knee. The ulcer was surrounded by a large colorless edematous zone. The author says that this edematous base is pathognomonic of hysteria, and the ulcer was diagnosed as hysterical. The patient, at the same time, had complete anesthesia about the ulcer. The ulcer had, in eight days, grown from the size of a pea to that of a large hand. This rapid extension is another characteristic of hysterical ulcers. The patient afterwards developed all the important signs of hysteria, viz., anesthesia of the pharynx, abolition of the sense of taste and smell, and diminished visual field.

Ozone.—This modified form of oxygen, which was discovered by Schoenbien, in 1840, has a very great importance in terrestrial and vital chemistry. According to Dr. de Courmelles (*La Revue Med.*), its chemical phenomena are about the same as those of ordinary oxygen. But while the latter is the agent in all rapid combustions, the former is the silent and universal factor of slow oxydation.

The generally accepted opinion that the presence of ozone in the atmosphere is a condition favorable to health is held by the writer to be a false conclusion. Atmospheric ozone is a probable cause of certain complaints, rather than a panacea for diseases generally. The author finds an especial casual relation between ozone and diseases of the respiratory tract. He notes experimental investigations made by himself and others in which a constant and large increase of ozone was found when la grippe was epidemic, and in fact in all pathological conditions dependent on congestions of the respiratory apparatus ozone was very abundant and active.

But the influences of ozone are not inimical in all cases. The invariable absence of ozone, in the air, in epidemics of cholera and other apyretic maladies is an established experimental fact.

It can be said, then, that ozone has toxic properties, and it has, at the same time, therapeutic properties. To determine the action of ozone on the vital functions experiments were instituted. Small animals were placed in an ozonic atmosphere (1 to 2000). The results were always the same; the animals died in a very short while and the autopsy revealed intense pulmonary congestion.

A large series of meteorological observations have confirmed the laboratory experiments that in all pulmonary affections (where there is an approach to endemic frequency), and in febrile conditions generally, there is an excess of ozone to be found in the air.

The favorable action of ozone is more in the line of prophylaxis. This is an active form of oxygen and it has a destructive action on all micro-organisms. By thus oxydizing the pathogenic germ ozone renders an undoubted service to the public health.

The meteorological investigations of the subject are, as yet, incomplete, but the intimation is very strong that the ravages of microbic epidemics, with the exception of the organs of respiration, go hand in hand with the diminution and absence of atmospheric ozone.

Osteo-Plastic Opening of the Frontal Sinus.—In empyema of the frontal sinus, the first attempt would naturally be to pass the sound through the nose into the natural opening, and keep it open (Czerny *Centblt. f. Chir.*). If that is not successful, or if the cure of the empyema is not effected, he proceeds to open it usually through the orbital plate, or through the interior surface of the frontal bone. If a large opening into the bone is made, a depressed scar remains. He therefore, in a case he was called to operate upon, opened the sinus by means of an osteo-plastic flap, with its semi-circular convexity downward. The frontal sinus was freed of its pus and granulations, the opening into the nose was widened, and a drainage tube drawn through. The flap was kept open for some time with iodoform gauze, and healed up in four weeks, with hardly any disfigurement. The patient was still well six months after.—*Amer. Med.-Surg. Bulletin.*

ABSTRACTS

MEDICINE.

The Blood Changes in Gastric Disorders.—Blindermann (*Wein. med. Blatt.*) has investigated the blood of 18 patients in Wassiljeff's clinic. Eight of these had chronic gastritis, 2 acute gastritis, 4 gastric ulcer, 4 carcinoma of the digestive tract. In acute gastritis the blood was found to be normal, in chronic gastritis the red corpuscles were normal in number or slightly diminished, the white corpuscles unaffected. In gastric ulcer the leucocytes were normal, the red corpuscles diminished except in one case where hematemesis were absent; in the others the diminution was exactly proportional to the amount of hematemesis, chlorosis, and melena. In the cases of malignant disease, however (3 of which affected the stomach and 1 the rectum) there was great diminution in the number of red corpuscles with (except in 1 case) increased leucocytosis. The percentage of hemoglobin was much more reduced than in gastric ulcer. Blindermann concludes that: (1) Examination of the blood always affords a means of diagnosis between cancer of the stomach and other gastric disorders, particularly chronic catarrh and dilatation; (2) with rare exceptions the differential diagnosis between cancer and ulcer of the stomach is much simplified by microscopical examination of the blood; (3) in malignant disease of the stomach the diminution in hemoglobin progresses steadily, whereas in gastric ulcer there is a sudden great drop after hematemesis, followed in a few days by return to normal. The only exception to the latter rule is in the rare cases in which pernicious angemia supervenes; this may be recognized by the constant diminution of hemoglobin, the number of the red corpuscles, and the presence of poikilocytes, microcytes, and macrocytes; (4) chronic gastric catarrh with marked dilation causes no definite changes in the constitution of the blood.—*Brit. Med. Jour.*

Diffuse Sclerosis of the Brain and Spinal Cord.—Burk (*Inaugural Dissertation*, Tübingen, '95). Male, good heritage, denied syphilis, intemperate. Disease began in twenty-fifth year, gradually, tremor of right hand; in the beginning intermittent, occurred especially when writing. Nine months later it affected the right elbow joint and gradually became more severe. Two years after beginning of illness the patient felt weakness of the left leg, dragged foot when walking. Weakness increased, lessened mobility; no pain or perverse sensations. In his thirty-first year, feeling of weakness in right leg, movements slow, never so severely involved as left leg. A year later the head began to totter and shake, tremor in right arm gradually increased, also the left arm. At first the shaking of

head was intermittent, soon increased and became continuous. All disappeared during sleep. In his thirty-eighth year, examination showed in addition to what has been given that there was disturbance of speech, syllables jerky, between individual syllables a toning inspiration was made. For the next eight years the patient was so much better that he could go without a stick. For some months, at the end of that time the tremor and weakness was very much worse and he could walk only on crutches. The speech disturbance more severe, and he also noticed that he saw objects laterally to the field of vision double. Later the disturbance of vision vanished.

In his forty-eighth year, aside from the unarticulated speech, immobility of tongue, the continuous tremor movements of the head which ceased only during sleep. The strength of the arms, especially the left, was decreased, likewise, same of lower extremities. Disturbance of co-ordination in standing and walking; the patient shook so that he could not be trusted alone.

This condition continued about the same up to his sixty-third year. He then complained of some difficulty in swallowing.

In his seventieth year, a careful examination showed sensibility intact; also, intelligence and special senses. Speech more marked disturbance, all symptoms little more severe, symptoms worse on left side; knee jerk present; no ankle clonus. In his last years, often complained of a bad taste; sense of taste normal. Toward the end there were loss of reflexes, difficulty in swallowing, incontinence urine and feces. Death in seventy-sixth year, symptoms of pneumonia and pulmonary edema, and weakness of heart after influenza.

Post-mortem showed diffuse sclerosis of brain and spinal cord. Old area of softening in the right angular gyrus. Arterio sclerosis. The spinal cord somewhat small and flattened, great resistance to the knife on cutting through it. The brain was small, weighed only 1,100 gms. with the membranes. The sulci gaping and the surface of the brain looking granular on account of small sinkings in.

The microscopical examination showed: Brain uncommonly hard, almost leather-like consistence. Gyri small, white and gray substance sharply differentiated, numerous corpora amylacea. No sclerotic areas or foci to be found, and it could not be said with certainty that there was an increase of the neuroglia or connective tissue. Nerve fibers well preserved; white substance especially showed no deviation from normal; ganglion cells normal; ventricles distended; pia thickened and injected.

In the cerebellum the inner cortical layer in an individual focus looked pathological. The spinal cord, a thin, flattened band, leather-like consistency, hard to cut, showed a thickening of the pia and of the septa which radiate in from it; normal preservation of the nerve fibers, and ganglion cells; white and gray substance very much diminished in size, gray more. No actual increase of the neuroglia; increase of corpora

amylacea; hydromelia of the central canal in the cervical enlargement and in the environs increase of the neuroglia.—*Journal of Nervous and Mental Diseases.*

The Antithermic Analgesics.—J. Schmitt (*Rev. Med. de l'Est.*) reviews, chiefly clinically, these remedies. They may be classed as follows: (1) Phenol group, with phenic acid as its chief. The chief action of these is antiseptic. Their analgesic powers are feeble. The objections are, that they are protoplasmic poisons, they paralyze or destroy the blood corpuscles, and depress or paralyze the nervous system. Their antithermic action is energetic but transitory. More permanent reduction of temperature can be obtained only at the risk of dangerously toxic doses, or at that of inducing cachexia and profound anemia by frequently repeated small doses. (2) The aromatic group, chief of which is salicylic acid. The chief characteristics are a still predominant antiseptic action, less toxicity than group 1 owing to the substitution of COOH for OH. Apart from rheumatism their analgesic power is weak. The large doses required to lower temperature, cause digestive troubles, buzzings in the ears, and even cardiac enfeeblement and renal irritation. But with undamaged kidneys they increase diuresis and depurate the blood of extractives and nutritive residue. (3) The anilide group. Its antiseptic properties, though strong, are less than those of the phenol and salicylic acid. The fall of temperature caused is rapid but transitory, with abundant sweats, shiverings, cyanosis, and often hemoglobinuria. (4) The phenylhydrazin group which are even less satisfactory than the anilides. Like the latter, they are eliminated as amidophenol derivatives. (5) The Chinoline group possess considerable antifebrile and antiseptic properties, but are liable to disorder the digestive tract, and to give rise to severe nervous symptoms. Their antithermic power is fugacious, attended by profuse sweating, collapse, etc., and attended by too severe corpuscular destruction. Hence, as a group, they are not satisfactory. (6) Pyrrol group, the most important and almost the sole representative of which is antipyrin. Endued with a real antifermentative and microbiocidal action, almost inoffensive as regards the blood, it possesses antithermic and analgesic properties second to none. A few derivatives of antipyrin must be mentioned—salipyrin, tolpyrin, tolysal—which do not present any special advantages.—*Brit. Med. Jour.*

Amyl Nitrite in Pneumonia.—Hayem (*Sem. Med.*) describes the treatment of 77 cases of pneumonia by inhalations of amyl nitrite. It is generally agreed that this drug should be used with great caution, 4 or 6 minims having hitherto been considered as a large dose. Hayem's experiences show that a much larger quantity may safely be used. For a single inhalation he gives 60, 80 or even 100 minims. These are administered 15 minims at a time on a compress held 2 or 3 centimetres from the patient's mouth; the whole in-

halation lasting from three to five minutes. In ordinary cases one inhalation a day suffices; in severe cases two, given morning and evening, are better. No accident ascribable to this treatment has followed. The inhalations are continued throughout the illness and for one or two days after the crisis has occurred. The drug does not seem to influence the duration of the disease or the temperature; the effect produced is purely local, consisting of a diminution, more or less marked in the dyspnea, in a modification of the sputum, which becomes less viscous, and in a diminution of the stethoscopic sounds. It does not seem to affect the virulence of the pneumococci; its action seems to be exercised entirely on the pulmonary circulation, which is probably subject to a sudden flushing with blood, analogous to that occurring in the skin, which hastens the return of the blood by the pulmonary channels and promotes the absorption of the exudation. In eighteen months 77 patients were treated in this way, the deaths numbering 16. A large number of these were bad subjects, being drinkers or confirmed drunkards. Neurotic subjects bear the treatment badly owing to the fears they entertain. It is highly important that during the inhalation the patient should be in the recumbent position.—*Brit. Med. Jour.*

Infantile Scurvy from Sterilized Milk.—

Louis Starr in *American Journal of the Medical Sciences*:

Among artificially fed infants, particularly those belonging to the wealthier classes, where the surroundings are most favorable and the supply of cow's milk as nearly perfect as possible, one encounters cases of malnutrition verging upon simple atrophy, which are due solely to sterilization of the food, a fact readily established by the rapid improvement following the use of identically the same milk mixtures either Pasteurized or untreated by heat. In his opinion the alterations produced in cow's milk by sterilization may also lead to the development of the complex of symptoms known as infantile scurvy, but as this point has been disputed it is a matter of interest and importance to place upon record the following cases that have come under observation during the past two years.

The first patient had been fed from birth upon a mixture of sterilized milk and water in the proportion, at first, of one-third, then one-half, and next two-thirds, with two teaspoonfuls and half of cream and one teaspoonful of sugar to each six-ounce bottle. He apparently thrived until the age of eight months, when the symptoms of scurvy appeared; namely, spongy and bleeding gums, pain in and immobility of the legs, and some swelling above the knee and ankle joints.

The treatment adopted was discontinuance of sterilization without alteration in the composition of the milk food, the administration of a teaspoonful of orange juice and the same quantity of raw beef juice three times daily, and small doses of citrate of iron. Result, complete recovery in a little over three weeks.

The second patient had been bottle-fed from birth.

Up the fourth month a condensed milk mixture was employed; then he was placed upon a sterilized mixture of cow's milk, cream, lime-water, and sugar of milk. The initial symptoms were fretfulness, disturbed sleep, slight feverishness, and violent paroxysms of crying when picked up in the arms, or when the legs were moved, or pressure made about the hips or knee-joints. These joints were not perceptibly swollen, nor was there redness or other discoloration of the surface. The gums, however, of both the upper and lower jaw in the neighborhood of the two lower and four upper incisors, which were well advanced, were swollen and of a "deep raw-meat color." This discoloration decreased after a short time to a purplish line limited to the margin of the gums.

No change was made in the composition of the food, but Pasteurization was substituted for sterilization in its preparation, and in addition two teaspoonfuls of raw beef juice and from one to two teaspoonfuls of orange juice were ordered every four hours.

The patient began to improve immediately, eating better, gaining in weight, and sleeping well. All scorbutic symptoms disappeared in less than three weeks.

The third patient was a child of well-to-do parents living in the country, who first exhibited symptoms of scurvy at the age of seven months. She was artificially fed from birth. The digestive power being small, a sterilized mixture of cream water and milk sugar was employed for five months. Later Mellen's food was added, but increase in the strength of food caused indigestion.

At seven months a slight decrease in the activity of the leg movements was observed. Then pain, evinced by crying, was noticed on moving the limbs; this gradually increased until the slightest movement or touch caused suffering. The parts in the neighborhood of both knees and the left ankle were the most tender. The gums surrounding the two lower incisors, which were thoroughly advanced, were swollen and purple in color. Both legs were passive; attempts at movement caused severe pain, and pressure above the knee and ankle joints showed extreme tenderness. There was no swelling, and neither heat nor discoloration of the surface. Examination of the heart, lungs, and abdomen gave negative results, and the urine was normal. There was no indication of rickets.

Immediate discontinuance of sterilization was recommended, and the child was ordered a partially predigested food, composed of cream, one half fluidounce; milk and water, each three fluidounces; peptogenic milk-powder, one drachm. In addition to this, one teaspoonful of raw beef juice and a bitter tonic were given three times daily. The scorbutic symptoms disappeared rapidly.

Not to go into detail, the author has seen in consultation during the past eighteen months five cases of scurvy in children aged eighteen, twenty, twenty two, sixteen and fourteen months, respectively, which illustrate the etiological point in question. In each of these

cases the food was properly proportioned, and had for its basis sound cow's milk, but sterilization had been uniformly employed in its preparation. All recovered rapidly upon the same food unsterilized, with the addition of a small quantity of raw beef juice and orange juice to the diet.—*Arch. of Pediatrics*.

Pruritus in Its Relation to Skin Diseases.

—Pruritus is to many a vague term and is only the expression of a condition which is insidious in its origin and obscure pathologically (Dr. Brooke, in *Brit. Med. Jour.*). As commonly understood, pruritus means itching, but the dermatologist limits its use to the itching which is the primary symptom.

The itching in various cases varies greatly; it may be momentary sensations, which are very slight; it may be paroxysms of great irritation, and the itching may be continuous. The author says the paroxysmal variety is very severe. The patient loses self control and will scratch with almost maniacal fury. Relief is only secured when the sensation of itching is changed into pain by the severe scratching.

Bronson, of New York, has ventured the assertion that itching is a perversion of the sense of touch; a dysethesia. The pain produced by friction and scratching is antithetic to all pruritus. "It is the conversion of a vague weakly form of nerve action into one of the ordinary types, either of pain or exhaustion."

Itching may result from hyper excitability of the cutaneous nerves or from debility of the same. The causes are legion, for instance, the same sensations will be produced by certain poisons, by mental suggestion, by certain nerve degenerations, and by the physiological processes in healing wounds.

Pruritus may be scientifically placed in two major groups (1) those caused by external influences, (2) those that depend on internal conditions. The internal group include those that have a neurotic origin. The neurotic pruritus is subdivided into (a) the cases in which the primary excitant is purely nervous, or (b) the itching is due to reflex nerve irritation.

The purely nervous itches includes the pruriginous diseases which have been so extensively studied by the French.

If no skin lesions accompany the pruritus the constant scratching will produce various secondary lesions, as papules, furrows, etc. The cases that have no local lesions are the most difficult to treat. The author has seen cases where the itching radiated from hypersensitive spots, the destruction of which by the cautery would give relief. The important question to solve is whether the local lesions are the cause of the pruritus or the eruption are only secondary.

In some persons there seems to be an "itching diathesis." The affection is purely neurotic and frequently alternates with other nervous troubles as asthma, head aches, etc. In some cases with a marked diathesis the mere thought of the itching will immediately bring it on with an extensive outbreak of wheals.

Persistent itching is a prodroma of some of the severe nervous diseases. One of the most hopeless forms of monomania is that in which the patient complains of some perverted skin sensation. Almost every one is a victim, from time to time, of momentary reflex itching.

The secondary reflex pruritus has various causes. The development of serious gastric and intestinal diseases, as carcinoma, is foreshadowed by itching. The same can be said of many uterine affections. Pregnancy and menstruation are frequently complicated by unremedial pruritus. Tapeworms cause a general pruritus which ceases when the parasite is removed. Oatmeal porridge if not cooked long enough to dissolve the gritty particles will cause an intense itching in some.

A considerable number of cases of pruritus are due to irritants circulating in the blood. The itching of gout, diabetes, rheumatism, icterus, are familiar examples of hemal pruritus. The pruritus due to hepatic inactivity, constipation and faulty digestion is probably due to the absorption and circulation of toxins and other products of imperfect metabolism, hence the remarkable benefit of a household laxative in case of "overheated blood." Many cases of senile itching are due to chronic kidney lesions.

Sometimes the pruritus is an idiosyncrasy. In many an attack is precipitated by indulgence in a particular food, as shell-fish, coffee, alcohol, etc. Morphine, belladonna, mercury and iodoform frequently give rise to pruritus when introduced in the system.

Lack of skin lubrication is sometimes an annoying cause of pruritus. This may be due to the partial exposure of the nerve endings by the minute fissures in the epidermis, or it may be due to the suspension of the emunctory function of the skin, and the consequent irritation of the retained excretions.

The external causes of pruritus are three kinds (1) local skin diseases, (2) epizootic parasites, (3) physical or chemical irritants. The author thinks that many cases of eczema are really parasitic. The itching caused by contact with certain plants is a good example of chemical irritation.

The mosquito, pulex and bed-bug cause itching by injecting an acid fluid; lice irritate by crawling on the skin, while the *acarus scabei* probably acts in both ways.

The rapid alterations of the blood pressure induced by quick changes in temperature are frequent causes of pruritus. Sudden exposure to cold or heat, or the friction of harsh clothing are all efficient agents. The actinic rays of the sun cause a "summer pruritus" in some individuals —EDGAR THOMPSON, M.D.

The Diagnosis of Concealed Tuberculosis.

—B. K. Rachford in *New York Medical Journal*:

Concealed tuberculosis means for the most part a tuberculosis of deep-seated lymphatic glands, but it may also include a beginning tuberculosis of any other tissues so located in the body that they may conceal for a time an active and destructive tuberculosis. The great clinical importance of this phase of tuberculosis depends

on the fact that it may continue for a long period of time without pulmonary tuberculosis or general tuberculous infection, and that during this time it is, as a rule, amenable to treatment.

Concealed tuberculosis is the characteristic tuberculosis of childhood, and is more prevalent than all the other chronic diseases of childhood taken together. Glandular tuberculosis, the most common form of tuberculosis in childhood, produces much more profound anemia than pulmonary tuberculosis, and it is the form most commonly concealed. The anemia of tuberculosis is a simple anemia; that is to say, the reduction of corpuscles as a rule keeps pace with the reduction in hemoglobin; at times, however, the anemia approaches the chlorotic type. Irregularity and early appearance of the menstrual function may be an evidence of concealed tuberculosis. Of seventy-seven girls with tuberculous family histories, thirty were regular and forty-seven were irregular in their menstrual function. Of eighty-five girls with non-tuberculous family histories, eighty were regular and five were irregular in their menstrual function. It is difficult to understand how a family history of tuberculosis could produce this irregularity except through an active tuberculosis which in these girls is concealed.

The author found that in convent girls a tuberculosis family history favored the early appearance of the menstrual function. In fifty-three girls with tuberculous family histories the average year of first menstruation was fourteen. In twenty-eight girls with non-tuberculous family histories the average year of first menstruation was fifteen. It is his belief that the influence of a family history of tuberculosis in producing early menstruation is due to the increased irritability and excitability of the nervous system which is among the early manifestations of glandular tuberculosis. A scant and pale menstrual flow, followed by a leucorrhœal discharge, may result from a concealed tuberculosis. This condition is very commonly associated with irregularity and early appearance of the menstrual function as a sign of concealed tuberculosis in convent girls.

Dyspnea and pain in the side are not infrequently symptoms of a concealed tubercular bronchial adeno-pathy. These symptoms are made worse by any exercise, and, like anemia and irregularity in the menstrual function, they are etiologically related to a tuberculous inheritance. Proneness to catch cold is so commonly an evidence of concealed tuberculosis that its importance as a warning or as an indication that active concealed tuberculosis may exist in the bronchial or other lymphatics can scarcely be exaggerated.

Abnormal dwarfishness may be an evidence of concealed tuberculosis. A marked disproportion between weight and height, when associated with poor chest development, should prompt a careful search for other signs of concealed tuberculosis. Obstinate constipation, dyspepsia and pronounced anemia are often grouped as evidence of a deep-seated glandular tuberculosis.

Enlargement of external lymphatics, accompanied by

a pronounced anemia not otherwise explainable, is one of the most important signs of concealed tuberculosis. But the superficial glandular enlargement when not accompanied by other symptoms is of little value either in diagnosis or as an indication of the severity of the deep-seated glandular disease, since a very destructive tuberculosis of the bronchial or mesenteric lymphatics may exist with little or no involvement of the cervical or other external lymphatic glands, or vice versa. This is the period of life when tuberculosis hides itself away in deep-seated structures and slowly and stealthily proceeds with its work of destruction. It often does irreparable damage before it openly announces its presence by the following signs and symptoms. Caseation of lymphatics, cold abscesses, eczema, phlyctenular ophthalmia, corneal ulcers, suppurative inflammation of eyelids, otorrhea, mastoid disease, amenorrhea, and inflammation of bones, joints and lungs.

The early diagnosis of glandular tuberculosis in children is important for two reasons: (1) Is it curable; (2) when entirely recovered from it affords partial protection against pulmonary tuberculosis later in life.—*Arch. of Pediatrics.*

Modification of Cow's Milk to Render it Suitable as an Infant Food.—A D. Blackader in *Montreal Medical Journal.*

Two important considerations should guide us in the employment of cow's milk. The first is that we must have a practically sterile milk, lest we introduce poison-working bacteria and their deadly products into the alimentary canal of the infant. The second is that even sterile milk to be proper food must be digestible in the infant's stomach, and in the great majority of cases it requires to be variously modified to suit the digestive capacity of each individual infant.

At the outset the milk must be pure and, as far as possible, uncontaminated. In a report of the milk supply of London by a special analytical and biological commission the sophistications met with in milk are briefly stated as follows:

1. The addition of water—both dishonest and dangerous.
2. The addition of substances intended to prevent decomposition—not perhaps of themselves injurious in the quantities added, but facilitating the sale of stale milk.
3. The addition of substances intended to give color—generally not injurious.
4. The abstraction of cream or the dilution of a rich milk with milk from which cream has been abstracted—dishonest and in many instances dangerous.
5. Pollution of milk—always dangerous. This pollution may occur: (a) from hands of milkers; (b) by discharge from the genitals and fecal and other matters soiling the udders and teats, and thus gaining access to the milk; (c) from the use of dirty utensils, either at the dairy or at the retail establishment; (d) from the washing of the utensils with dirty or infected water, or

from the exposure of the milk or utensils in insanitary emanations either at the dairy or the retail shop; (e) from the dirty hands or clothes of the milkmen in the streets, and from their careless exposure of the milk during distribution.

In the larger cities the question of obtaining pure milk for the use of infants has become a very important one. The author quotes from Koplik who has for many years interested himself in procuring pure milk in New York City: "The conditions present among the immense infant clientele of the poor are an anxious mother worn out by unsuccessful attempts to make amends for her mistakes and those of others, and an unscrupulous public caterer, who, either through the avenues of chemical science, or the less noble one of dairy manipulation, looks upon these little infants as just objects of experiment or gain. We wash out an infant's stomach and bring it, twenty four or forty-eight hours, through the administration of albumins, to a condition of tolerance of food, only to have it to begin again the attempt to digest unwholesome milk, or to assimilate some chemical compound offered as food. The object of the writer in establishing a laboratory in connection with the department for diseases of children has been to give the infants a wholesome food basis—that is a pure milk. We can, with a well-equipped laboratory, not only ensure absolute cleanliness in the milk, but we can limit and regulate the daily quantity and the exact diluent and be certain that success will follow in a good proportion of cases."

In this laboratory the milk is obtained in large cans from a reliable State dairy; it is sterilized at a temperature between 85° and 90° Celsius, and dispensed to the patients in the ordinary green glass, three to six ounce prescription bottles only half or two-thirds filled, and directions are given at the time as to how much diluent is to be added. These bottles are returned the following day and new ones issued, so that the supply for every day is absolutely under the physician's control, provided the mother follows the directions.

The temperature employed is distinctly higher than the Pasteur limits, but it was found that a single exposure to temperature below 85°C. would not retain milk, as they obtain it, in a sterile condition for twenty-four hours when stored without ice; and after many experiments, the temperature mentioned above was found to give most satisfaction. Milk thus prepared, although possibly slightly changed, differ but little in appearance or taste from raw milk, and it may be supposed that the changes noted by Dr. Leeds in milk sterilized at 100°C. are practically absent.—*Arch. of Pediatrics*.

Is the Physician Responsible for the High Mortality Among the Newly Born? —M. A. Tromp in *Medical News*:

The term newly born is applied by the author to an infact during the first month or six weeks of its existence.

Kross, taking sixteen large European cities as the basis for computation, states that ten per cent of children born alive die during the first four weeks of life. Oosterlen states that the mortality of the first month makes up forty-two per cent of the deaths of the first year of life.

In this country, owing to deficient registration of births, the statistics are unreliable, but all authorities agree that during the first month the mortality is very heavy. While there may be differences of opinion as to the exact mortality among the newly born, the facts show this mortality to be so great as to demand a positive answer to the question at the head of this paper.

Undoubtedly the mortality of the first month of life will always be high, for many of the deaths are unavoidable. There is a marked tendency, however, among physicians to ascribe to Divine Providence results brought about by their own neglect.

Fischl, from a careful study of histories, sections and bacteriology, in twenty-two newly born, comes to the following conclusion:

1. During the first few weeks sucklings are not uncommonly infected by septic microbes. The clinical and anatomic signs of this infection may be those of an acute or subacute gastroenteritis or lobular pneumonia.

2. The grounds for classing these diseases in the group of septic pyemias of the new born is the close similarity, in histologic and bacteriologic conditions, between these affections and those diseases that, both clinically and anatomically, pass as septic-pyemic.

3. The histologic character of the organic changes consists in necrosis of cells and interstitial inflammation, with a tendency to hemorrhages. The microscopic changes in the mucous membrane of the gastro-intestinal canal may be slight or entirely wanting, even in cases in which the symptoms are most severe.

4. By means of culture-tests and inoculation tests, streptococci and staphylococci are found in various organs, especially in the lungs.

5. The paths of infection are the navel-wound, with or without alterations in its healing, the food and inspiration. The latter way is one of the most common and leads to the development of prominent pulmonary symptoms.

6. Acute dyspeptic diseases and genuine pneumonias are rare, and their prognosis is much more favorable than when gastro-intestinal or pulmonary symptoms accompany septic infection.

The author, after a study of various causes of death, concludes by summing up some of the deductions that seem to be justified by facts:

(1) The mortality of the newly born, is both absolutely and relatively, disgracefully high.

(2) Septic infection causes a part of this mortality, and is preventable.

(3) Asepsis should be observed about the new-born child. Dirty fingers or instruments should not be introduced into the child's mouth in case of asphyxia.

The child should not be allowed to ingest pus with its milk.

(4) The navel should be treated on modern surgical principles and have the personal supervision of the physician.

(5) The physician should take the child's temperature as well as that of the mother, bearing in mind that many of the septic diseases have an insidious approach, and that the importance of the thermometer can not be overestimated.

(6) The navel wound may be the path of infection without showing signs of local inflammation.

(7) Close observation of the new-born infant will teach the physician much and benefit the child greatly. —*Arch. of Pediatrics.*

On a Form of Neuritis Caused by Vascular Diseases.—Schlesinger (*Neurolog. Centralblatt*):

A man, 69 years old, who had been perfectly healthy and free from syphilis, was taken with pain and weakness in the left leg, accompanied by intercostal neuralgia of the left side. Duration of these disturbances about nine months. Without any apparent cause, gradual increase of the symptoms with periods of exacerbation, gradual intense hypertrophy of the left ventricle of the heart. Sudden paralysis of the extensors of the right, later of the left upper extremity and of the peroneal group of muscles; still later paresis of the triceps and deltoid muscles; finally paralysis and rapid atrophy of most of the muscles of the extremities with development of contractures. Lessening of the response to the faradic current, reaction of degeneration in several muscles; diplopia; constant intense sensation of cold in the legs; dissociation of the pain sense and of temperature on the back. Paralysis of sensibility in all qualities at the most distal portions of the extremities; nerve trunk show slight, muscles intense tenderness on pressure; violent spontaneous pains in all extremities; temporary disturbances of the vesical and rectal functions; acute decubitus at the right olecranon; chronic progressive fatal course; intelligence undisturbed: duration of the disease about one year.

The post-mortem does not give evidence of any microscopical changes, except insignificant atheroma of the large blood vessels and moderate emphysema of the lungs. The microscopical examination shows very grave degenerative changes of all nerves with far advanced disease of the vasa nervorum. In all nerve trunks examined, proliferation of the endoneural interstitial tissue, partial shrinkage of the degenerated nerve bundles. The vascular changes affect by preference the arteries, but also the veins; they consist in thickening of the walls in all three layers, narrowing of the lumen often of such degree as to lead to obstruction, and in thrombosis of single blood-vessels. Ascending degeneration of the nerves up to the ganglionic cells of the anterior horns (which latter, however, are not involved), and degeneration of the the posterior roots with consec-

utive ascending degeneration in the posterior columns. Enormous degenerative, inflammatory changes of the muscles with grave pathological alterations of their blood-vessels.—*Jour. of Nerv. and Mental Diseases.*

Anorexia Hysterica.—Kissel (*Die Therapie der Gegenwart*), reports the case of a girl, eleven years old, whose mother was hysterical and whose father an habitual drinker, died of phthisis at the time of his daughter's birth. The girl worried much for some years because she could not go to the institute where her sisters were. In a year her character had changed markedly. She became very peevish, retiring and excitable and showed a great dislike towards her mother. At this same time she became very religious and conceived the idea that she ate too much. Consequently she began to fast and rapidly to emaciate. On one occasion she attempted to choke her mother for advising her to take more nourishment. On admittance to hospital she was so thin that her bones stood out prominently, the muscles were atrophied, the skin then dry and brown, but its sensibility normal. The urine was very pale, like water, feebly acid, and contained no albumin or sugar. Her weight was 22,200 grm. For the first few days she refused all nourishment and only took a little milk. The temperature varied between 35 and 37.7°. Many unsuccessful attempts were made at hypnotic suggestion. Forceful feeding was then employed, and at certain times she took small morsels herself. During the first two weeks her weight diminished, but after this she gained rapidly, although she had contracted measles and influenza. She gained 13,250 grm., so that she weighed 35,450 grm., and was unrecognizable as her former self. The family history, the absence of organic disease, the psychical disturbances, the absence of pharynx reflexes and the rapid recovery all point according to K to hysterical anorexia.—*Jour. of Nerv. and Mental Diseases.*

Note on the Production of Amaurosis by the Extract. Filicis Maris.—Mosius (*Bulletin de l'Academie Royale de Medecine de Belgique*):

In the treatment of individuals affected with anchylostoma the application of the extract. filicis maris has been recommended not only in rather large doses (10 grammes), but several days in succession so as not to destroy the parasites only, but also their eggs. Sometimes visual troubles, amblyopia or even amaurosis have been seen to follow this radical treatment. Usually these disturbances pass away. The author reports two cases, however, in which these disturbances remained stationary. In one case after the administration of ten grammes pro die during three days complete blindness set in, and the patient remained blind. Ophthalmoscopically, first a simple anemia of the disk and retina was observed. Pupils dilated ad maximum, without any reaction. In the course of time complete atrophy of the optic nerves was established.

The second patient had taken ten grammes of the extract on the first day, eight grammes on the second, and the same quantity on the fourth day. The night after taking the last dose amaurotic amblyopia developed in somewhat less degree than in the first case. Pupils dilated at maximum; no response; anemia of the disks and retina. Some improvement of vision took place within months, but only to such degree that he could count fingers at a distance of six metres with the right eye, while with the left he could count them only when the hand was kept close by the eye; recognized colors except green which appears gray to him. Pupils have remained dilated, but the left shows slight response to light.

M. has experimented with the extractum filicis moris upon four dogs. On two of them he effected amaurosis which remained stationary. The result of the microscopic researches of the specimens obtained from these two dogs, which will probably give information of the nature of the disease will be published later.—*Jour. of Nerv. and Mental Diseases.*

Laryngeal Troubles in Syringomyelia.—

The author gives a brief synopsis of the findings in 18 cases in the practice of various French laryngologists. Motor or sensory troubles occurred in about half of the above number. Paresis or paralysis of the abductors was found three times, and paralysis of the recurrent nerve twice. Disturbances of sensation were more frequent than those of motion. At times merely a diminution of tactile sensation was found; at others a true anesthesia. Thermic sense was modified independently of the others. All of these variations were unilateral in some cases; bilateral in others. In three there was anesthesia of the nasal mucosa without any disturbance of the olfactory sense.

As to motor troubles, they varied, according to the period of observation, from a paresis of the posterior crico-arytenoid to a complete paralysis or a paralysis of the recurrent. Bilateral paralysis was never observed, though it has been by other writers.

In case these paralyses are of old standing, the corresponding vocal cord becomes atrophied. These conditions are furthermore evidenced by the usual symptoms of hoarseness, rawness of the voice, etc. The respiratory troubles are either wanting or at least very slight in degree. The onset of all these lesions is insidious. Of course they are to be regarded as of a bulbar origin. Hoarseness and dysphonia gradually supervene, though the patient's attention may be rather drawn to some one of the multifold and more severe lesions of his malady.

The sensory disturbances frequently pass unnoticed and are detected only on systematic examination. Dysphagia may be complained of, and it will then be found that there is a more or less pronounced paresis of the muscles of the soft palate.

Patients with syringomyelia may show laryngeal symptoms as early as the seventh year of age. No cases have yet been observed with laryngeal spasms or crises

which are so frequent among the laryngeal manifestations in tabes.—Cartaz in *Ann. de Mal. de l'Oreille; Amer. Med.-Surg. Bull.*

The Treatment of Chronic Blennorrhagia in Men.—J., in this article, gives quite minutely his method of treating chronic gonorrhea and its sequelæ in men and holds it to be of the greatest importance, before resorting to any instrumentation or treatment of the urethral lesions, except under rare conditions, to observe the following: (1) To search for the presence of gonococci, to locate their habitat, then to suppress the gonococcus completely; (2) to suppress, so far as possible, the secondary infections, other microbic invasions, which are often engrafted on an old gonorrhea, and continue after the gonococci have disappeared, then to take measures that these do not return, or are kept down; (3) after this the urethral or bladder symptoms may be treated according to the lesions left behind and the means appropriate to them.

1. He maintains that if we wish to avoid the accidents which not infrequently are set up by maldirected instrumentation, as epididymitis, we must first rid the urethra of the gonococcus, and be sure that it can not return. This he believes to be a comparatively easy matter, by means of large irrigations of the entire urethra with warm solutions of permanganate of potash, preceded, if necessary, by massage of the prostate and urethra, to empty the follicles. The opening and scraping of fistulous tracts, the laying open and scraping of the follicles at the meatus, if they are involved, or of follicles about the frenum, are also measures to be taken. These irrigations should be made daily for ten or twelve days, and search for the gonococcus made at the end of this time—if necessary, resorting to the different methods of causing a reaction, which reveal their presence, the drinking of copious drafts of beer, etc. The injection of 1:2000 solution of nitrate of silver, finally the injection into the anterior urethra of solution of mercury bichloride (1:20000 to 1:10000). This latter has the advantage of suppressing for the time being the other microbes. If the gonococcus is found, another series of irrigations with the permanganate must be undertaken.

2 The suppression of the secondary infections is oftentimes more difficult, as they are not so easily reached by the irrigations, and it is these infections which he regards as quite as important to suppress, not only for the wellbeing of the patient himself, but for the wife, if he is contemplating matrimony; then, too, it is these infections which are constantly liable to return, as the state of the urethra after a chronic or a prolonged gonorrhea is such as to encourage microbic invasion. The method for this is to use sublimate irrigations, in strength of 1:20000 for the entire urethra and bladder, the instillations of nitrate of silver and sulphate of copper after methods so well known. The sublimate may be used in conjunction with the permanganate by adding to 1 liter of the permanganate 50

c.c. of 1:1000 sublimate solution. To prevent return of microbic invasion, he advises, in some cases, injections of boric solution after urination, and the frequent washing of the glans, prepuce, and meatus with 1:1000 sublimate solution.

3. The treatment of urethral lesions by endoscope, sounds, massage of urethra, and prostate, etc. He mentions infections of seminal vesicles, but does not suggest any method of dealing with them. In using sounds, he advises the following procedure:

- a. Make the patient urinate.
- b. Wash the glans and prepuce with 1:2000 sublimate.
- c. Lavage of urethra with boric solution or sublimate 1:20000.
- d. Fill the bladder with the solution, by pressure.
- e. Use sterilized bougie or sound; lubricate with sterilized vaselin.
- f. Withdraw the sound, and let the patient empty the bladder of the solution which has been injected.

J. believes that the irrigations of the solutions of permanganate have a happy effect upon the slighter lesions of the urethra.—*Amer. Med.-Surg. Bull.*

Osseous Origin of Certain Tubercular Ulcerations in Appearance Exclusively Cutaneous.—The author again desires to call attention to the subject of cutaneous tuberculosis, with osseous lesions in the neighborhood. The author considers that many writers do not attribute as often as they should, the cutaneous lesions to the osseous one. Attention is called to two facts: (1) The special form of some plaques of cutaneous tuberculosis, which seem to accompany exclusively an osteitis of the same nature; (2) the facility with which the cutaneous tuberculosis of hypertrophic and vegetative form can be confounded with other cutaneous lesions.

In 1893 Ollier gave the cutaneous tuberculosis the generic name of lupoid ulcerations. The skin, and especially that of the hands and feet, presents lesions which can be easily pronounced tubercular, both from their macroscopic appearance as well as by their course, and by their tendency to relapse. Much more rarely the lupoid ulcerations are the source of grave confusion in their connection with the bony tissue beneath, and also in their nature. The tubercular plaque sometimes shows itself to be very irregular in outline, while in other cases the outline is beautifully circular. The growth is usually exuberant, and, as a rule, very sharply limited. It is formed of the agglomeration of fungoid tissue, is exceedingly variable in size, from that of a coin to the involvement of the greater extent of the back of the hand, or of the foot, and at times extending more or less to the back of the fingers or toes. There is usually a reddened base, several millimeters in diameter. The surface of the ulcer is red, budding, papillomatous, soft, more or less elastic, and bleeding readily. It is slightly shining, and appears as if covered with a very thin varnish. Sometimes it is rather grayish,

mammillated with fine lines of pus between the papules. Besides this form there is the crusted form of entirely different aspect. These are often coincident with the latent osseous lesions, and their osseous origin may be easily overlooked. These crusted forms have a tendency to spontaneous recovery. It is difficult to decide what conditions favor the development of the fungous or of the crusted form. The writer inclines to the opinion that the fungous ulcers are due to an external infection.

Although the evolution of these lesions has been favored, in such cases, by mechanical irritation, this cause does not complicate the infection. In the crusted form, the suppuration, which is easily demonstrated when the surface of the ulcer is cleansed, indicates a mixed infection, but this is not verified by microscopical examination at the time. Other points than the skin of the hands or feet may be attacked, as, for example, those parts of the body where the long bones become superficial. Two clinical forms of the lesions, apparently only cutaneous, are mentioned: (1) Lupoid ulcerations, in connection with a subjacent osseous lesion, in which class are found the indolent ulcers and the bony abscesses; (2) lupoid ulcerations of bony origin, in which the connection with the subjacent osseous lesion is interrupted.

In these cases the bony lesion may be healed, while the cutaneous one persists. The author also mentions another class of cases more rare, less clearly marked, more difficult to demonstrate, in which the lesions are less schematically disposed than in the varieties given. The evolution of the case is slow. The cure is usually spontaneous. The diagnosis is to be made from malignant growth, as epithelioma; and in such a case the result may only be attainable by the microscope or by inoculations. The diagnosis is also to be made from certain hypertrophic syphilitic ulcers. The treatment is by curetting thoroughly, and the use of the actual cautery.—Adenot de Lyon in *Ann. de Derm. et Syph.*; *Amer. Med.-Surg. Bull.*

NOTES : AND : ITEMS

The "Medical News" has become a New York publication.

The Kinetograph and the Clinic of the Future.—A French journal suggests that by the use of the kinetograph the clinical work of the future can be very much simplified. Kinetograph illustrations of clinical cases may be prepared and distributed throughout the country by means of university extension organizations. In this simple way, post-graduate lecturers could talk at a kinetograph carefully prepared lectures, at the same time exhibiting patients to the revolving

discs of the photograph machine; the results could be sold in regular lots at so many dollars per dozen.—*Med. Record.*

Thyreo-Antitoxin.—Dr. Frankel has obtained from the thyroid glands a substance which he calls "thyreo-antitoxin," and to which he gives a special formula $G_6H_{11}N_2O_6$. The substance is inodorous and tasteless, and it is inferred that it contains the active principle of the thyroid, because it produces rapid emaciation.—*Med. Record.*

The Committees of the St. Louis Medical Society Appointed for 1896.—At the meeting of the St. Louis Medical Society, January 4, the following committees were appointed by President Moore:

Ethics—Drs. F. D. Mooney, L. P. Pollmann, P. Y. Tapper.

Election—Drs. J. P. Hennerich, Jno. H. Duncan, Jno. B. Shapley.

Publication and Debate—Drs. G. M. Phillips, Chas. L. Wilson, F. C. Ameiss.

Executive Committee—Drs. Keating Bauduy, Given Campbell, C. M. Nicholson.

Library—Drs. L. Bremer, Wm. Johnson, S. Pollak.

Statue to Dr. Mueller in Tokio.—The ceremony of unveiling a statue of the late Dr. Mueller in the grounds of the Imperial University took place recently. Dr. Mueller was the first German professor at the Tokio Medical College, the embryo of the present College of Medicine in the Imperial University. He came to Japan in 1871, when few even among the Japanese professors of the college could speak German. In spite of serious difficulties he patiently labored to impart his knowledge to his students, and thus laid the foundation of modern medicine in Japan. Hearing of his death in January, 1894, his former pupils—including Surgeon General Dr. Ishiguro, Professors Miyake, Taguchi, and Aldachi, and a large number of well known Japanese—decided to erect a bronze statue of their esteemed master in the compound of the university. The work has been executed by Mr. Fujita Bunzo, the sculptor who earned a reputation by casting the statue of Dr. Aoyama. The statue represents the German professor in his military uniform.—*Brit. Med. Jour.*

Mustard as an Antiseptic.—Roswell Park (*Med. News*), calls attention to the remarkably efficient properties possessed by mustard as an antiseptic or sterilizing agent for the surgeon's hands and for the skin of the parts to be operated upon. His custom is to scrub his hands thoroughly with a mixture of green or other soap, corn meal, and mustard flour, using this for about five minutes. After rubbing it thoroughly into all the crevices and creases of the hands and nails by aid of a nail brush, one may be absolutely certain that his hands are sterilized, no matter what he may have been doing previously. Roswell Park has no hesita-

tion in proceeding from necropsy to the operating room if he thus protects his hands. Used as indicated the mustard leaves no unpleasant sensation; and one may feel that by the time it produces unpleasant tingling or rubefaction of the skin its essential oil has done its desired work as an antiseptic. He has discarded all other means of preparing the hands, and in several years' use of mustard in this way has never been disappointed, nor had the slightest reason to question its effectiveness. He adds that mustard is an admirable deodorizing agent, and will take away from the hands all offensive odor of dead or dying tissues, all redolence of iodoform, etc.—*Brit. Med. Jour.*

A Case of Sextuplets.—Vassali (*British Gynecological Journal*, August, 1895) has recorded the birth of six children at one birth. The patient, who was 36 years old, grew anemic and weak in the early months of her pregnancy, and complained of chilly feelings. She did not feel motion. In the fourth month the abdomen was as large as that of a normal pregnancy at term, and the woman daily expected confinement. On the one hundred and fifteenth day of gestation the membranes ruptured while straining at stool, and a foot prolapsed. Before this she had no pain. A fetus was delivered. The next morning pains began, with chills, flowing, rise of temperature, and vomiting, and it was decided to terminate her pregnancy. The membranes were ruptured, a foot brought down, and a second fetus was delivered. A third bag of membranes presented, and a third fetus was delivered, and so on till the fifth. The process lasted two hours, when an endeavor was made to hasten what was thought to be the third stage of labor, but the attempt to remove the placenta revealed a sixth amniotic sac and fetus. All the fetuses were born alive and moved vigorously. The sexual organs were differentiated, four being males and two females. The large single placenta bearing the six amniotic sacs, was unfortunately so lacerated that further investigation was useless. The specimen is preserved in the museum of the Obstetrical School at Milan.—*University Medical Magazine.*

Conjunctivitis Due to Larvæ.—Baquis, of Leghorn (*Annal. di Ottalmol.*) relates a case of acute conjunctivitis due to the larvæ of one of the tachinarie (class diptera) being deposited in the conjunctival sac. The patient, a mechanic in the naval dockyards, was at his work in the morning when an insect flew into his eye and then off again. The eye became irritable, and on this increasing a comrad examined it and saw some grains of what he took to be sawdust. The eye was washed out, and this afforded some relief for the time; but by the evening the pain was again very great, the lids swollen, and the conjunctiva very injected. On evertting the lids Baquis found a great number of whitish little bodies, the size of a fly's egg, which moved about rapidly; when he attempted to remove them he found it impossible to do so, as they fixed themselves to

the conjunctiva. On instilling cocaine, the movements of the larvæ became quieter, and they allowed themselves to be removed. The eye was then irrigated with perchloride of mercury 1 to 4,000, and 3 4 per cent sodium chloride, and was quite well on the third day.

Microscopical examination of one of the larvæ showed it to be elliptical in form, and made up of twelve metameres; each metamere was provided with lateral setæ, of which there were also a median ventral series. Its movements were vermicular. Nearly all the members of the family of tachinariæ deposit their eggs on other creatures, principally caterpillars, where they develop into larvæ. Baquis has heard of two other cases similar to his own.—*Brit. Med. Jour.*

A New Form of Reaction of Degeneration.

—The *Revue Internationale de Médecine et de Chirurgie Pratiques* for November 25, 1895, contains an abstract of a paper which was read by Dr. Ghilarducci at the recent congress of the Italian Society of Internal Medicine. The study of electric reaction in twenty-two cases of atrophic paralysis, says the writer, enabled Dr. Ghilarducci to formulate the following conclusions: We may affirm the existence of a new form of reaction of degeneration—namely, reaction at a distance. This reaction is characterized by contractions which manifest themselves in the degenerated muscles when the circuit is shut off, and in applying the electrodes at a distance from the muscle, and in such a position that the muscle will be included in the intervening space. This form coexists constantly with the classical reaction of degeneration. The reaction at a distance depends very probably on a slackening of the electric wave, which is due apparently to the conditions under which the experiment is made. The reaction at a distance persists for months and years when the electric excitability elicited by the classical method has completely disappeared in the nervous trunk and in the muscles.—*N. Y. Med. Jour.*

Coroners and Diphtheria in England.—

The borough coroner for Ipswich has followed a rather unusual course in holding an inquest upon a fatal case of diphtheria, but the evidence elicited, as reported in the *East Anglian Daily Times*, was such as to suggest that the example is deserving of occasional imitation, if only as a means of stimulating the local authority, and at the same time of strengthening their hands against the opposition which the most necessary improvements in sanitary matters are pretty certain to meet with among a section of the rate-payers. There had been four deaths from diphtheria in the same family within a week, and this in a house with only two bedrooms, occupied by a family of seven children. The parents would not agree to removal to hospital, but it transpired afterwards that there was no room there, even if consent had been given. The drainage was about as bad as it could be, and the water supply was derived from a contaminated well. School influence and the effluvia

from sewer gratings also came into question. Indeed, in the course of the inquiry nearly every point connected with the etiology of diphtheria seems to have been put before the jury and the public in a very clear way, with a practical application to the duties of the sanitary authority in matters of water supply, drainage, and sewerage, inspection and abatement of nuisances. In the end the jury made some very sensible recommendations with regard to the systematic inspection of houses of this class, particularly as to drainage and water supply. The publicity thus given to such a terribly tragic object lesson says the *British Medical Journal* can scarcely fail to do good, and we shall not be sorry to hear of other coroners trying to throw light in an equally efficient way upon preventable deaths than have not been prevented.

An Examination for the Marine Hospital Service.—

There will be held in Washington, D. C., on February 10, 1896, a competitive examination of candidates for appointment to the position of assistant surgeon in the United States Marine-Hospital Service. Candidates are required to be not less than twenty-one years of age, and no appointment is made of any candidate over thirty years of age. They must be graduates of a reputable medical college and furnish testimonials as to character.

Successful candidates, having made the required grade, are appointed in order of merit as vacancies arise during the succeeding year. There is at present one vacancy.

A successful candidate, when recommended for appointment, is commissioned by the President of the United States as an assistant surgeon. After four years of service and a second examination he is entitled to promotion to the grade of passed assistant surgeon, and to the rank of surgeon, according to priority, on the occurrence of vacancies in that grade.

The salary of an assistant surgeon is sixteen hundred dollars per annum, together with furnished quarters, light, and fuel; that of a passed assistant surgeon, eighteen hundred dollars per annum; and that of a surgeon, twenty-five hundred dollars per annum. In addition to these salaries, after five years' service, an additional compensation of ten per cent of the annual salary for each five years of service is allowed medical officers above the rank of assistant surgeons, the maximum rate, however, not to exceed forty per cent.

When an officer is on duty at a station where there are no quarters furnished by the government, commutation of quarters is allowed at the rate of thirty dollars a month for an assistant surgeon, forty dollars for a passed assistant surgeon, and fifty dollars for a surgeon. The successful candidates, after receiving appointments, are usually ordered to one of the larger stations for training in their duties.

Full information may be obtained by addressing the Surgeon General of the Marine-Hospital Service, Washington, D. C.

MEDICAL REVIEW,

A WEEKLY JOURNAL OF MEDICINE AND SURGERY.

VOL. XXXIII.

ST. LOUIS, JANUARY 18, 1896.

NO. 3.

ORIGINAL ARTICLES

A Phase of Traumatic Epilepsy.

BY F. R. FRY, M D., ST. LOUIS, MO.

Read before the St. Louis Medical Society, November 23, 1895.

When our Committee asked me a few days ago to participate in a discussion of epilepsy, I had just finished reading a recent article on the subject by a neurologist of reputation. I accepted the invitation hoping that the combative mood which certain statements of his had left in me would endure until I had arranged some brief considerations with which I might venture before the Society. When later informed that I would be expected to lead the discussion this evening I felt that I had nothing worthy that position on the programme.

The utterances which especially attracted my attention in the above-mentioned article are as follows:

"Reflex epilepsy means, therefore, a state of irritation of the cerebral centers, produced not by a central but by a peripheral lesion."

"The line of demarcation between reflex and traumatic epilepsy should be sharply drawn. In the latter the irritative lesion is direct and local, the result of a trauma to the cranium, and the consequent convulsions are, in a degree, amenable to the surgeon's knife, yet not to such an extent as was claimed by observers a few years ago."

The object of my remarks this evening is to record, rather than argue at length, an objection to the statement here made, and explicitly expressed or implied in the writings of others, that the term reflex epilepsy should be used only when the lesion is peripheral, and the term traumatic epilepsy only when the lesion is "direct" or "local."

The writer just quoted cites two cases, the first so-called reflex epilepsy. The patient, a little girl, about four years old, when first seen by him, was having convulsions characterized by general clonic contractions, loss of consciousness, incontinence of urine, frothing and bleeding of the mouth. The history revealed the following facts: The first disturbance had consisted of

some peculiar movements confined to the left leg, which had begun some months previously, and occurred daily and later oftener, and finally extended to all of the extremities, becoming more violent, and eventually culminated in a full epileptic seizure. An examination revealed at the bend of the left knee a large tender and painful cicatrix, which was non-adherent and did not interfere with free movement of the joint. This was the result of a severe burn received about eighteen months prior to her first interview with the reporter. The first motor disturbance, above described, had occurred about two months after the accident. Up to the time of the injury she had been a normal and healthy child from birth, with nothing of especial interest in the family and personal history save the following facts, about which the writer says:

"Dentition passed off smoothly with the exception of some gastric trouble which lasted but a few days. * * When two years old she was troubled with ascarides, diagnosticated by their presence in the feces, condition of the child, and reflex phenomena. (The character of these phenomena are not stated). She did not, however, at any time fall into convulsions. * * * At three years she passed through a severe attack of whooping-cough. * * * Never complained, always bright, and cheerful."

He further says: "I made a diagnosis of reflex epilepsy and laid out the following treatment: The cicatrix being too large for excision, I advised painting it daily with collodion. Internally, I prescribed equal parts of bromide of sodium, ammonium and potassium, five grains three times daily, and the administration of cod-liver oil. On this treatment the child reacted promptly and the attacks became less severe and less frequent. After two months' treatment the cicatrix appeared more healthy and less painful to pressure. At the end of six months the attacks had disappeared, and since then there has been no recurrence. The bromides were gradually dispensed with, and at the present time, six years afterwards, the parents consider the child cured."

Why should he, or any of us, call a case of this description reflex when it would seem so probably due to trauma. And, by the way, while we are quibbling on terms let us stop to examine the meaning of this one. I find the word traumatism thus defined: 1. *The infliction of an injury.* 2. *The state or condition of the system produced by a serious injury.*

The history of this case suggests that a predisposition to convulsions, although existing, was not great. The fact that teething, a severe attack of infectious disease and the presence of intestinal worms, all of which frequently act as exciting causes in the young, had not occasioned convulsions would leave room for the inference that some more profound disturbance to the system was necessary for their production. This finally occurred in the shape of a severe traumatism. It would seem probable that the effect of the trauma in this instance was not merely the formation of a scar which maintained an irritation sufficient for the causation of epilepsy, but that there was an actual traumatism or profound impression to some portion or portions of the nervous system inflicted at the time of the injury out of which the epileptic phenomena developed. I would suggest that only in this sense the term traumatic epilepsy should be used, if ever employed at all, no matter whether the injury is to the skull, the brain or some other part of the body.

His second case was also evidently an epilepsy, the first symptom of which followed an injury to the skull in the left frontal region. The bone was fractured and the patient, a boy 12 years of age, rendered at the time unconscious, but seemed soon after to have fully recovered from all effects of the accident. Six years after the first symptoms of epilepsy occurred, and gradually developed into classical attacks. Eight years after an operation was done. The dura was not opened but only loosened from the thickened bone at the site of the injury, a considerable portion of which latter was removed. Convulsions returned soon after this operation. A second one was performed over a year later. More bone was removed. A single convulsion occurred soon after, but since then, upwards of three years, there have been none. Bromides had been freely used before the operation with indifferent results. They were also continued after the operations.

I cite this case only for one purpose; namely, to call attention to the difficulty of affirming the fact of actual traumatism in any given case. Here, *e. g.*, there was a force sufficient to render the patient unconscious and fracture the skull, yet, by simply opening the skull and removing thickened bone eight years afterwards severe epileptic phenomena disappeared for at least several years. If this slight operation accomplished such complete relief we would be far wrong in arguing that a gradual pathological thickening of the bone in the developing skull of the boy finally reached the point where there was irritation sufficient to produce reflex epilepsy, and that, although there was much violence, there was not inflicted an actual traumatism, or at least not a traumatism of which there was expression in lasting symptoms of disturbance of the nervous system.

The ground for what may seem a hypercritical attitude on my part is that the use of these faulty terms begets and perpetuates false conceptions about the conditions and diseases to which they are applied. Wrong conceptions of epilepsy are every where apparent. The extent to

which we are influenced by them in the practical matter of selecting measures for its relief, and especially surgical measures, is apparent, at least to neurologists. We frequently speak and act as though we lost sight of the limitations of our knowledge of the subject, sometimes seeming to formulate rules from theories instead of for clinical facts.

Epilepsy has been defined with varying ingenuity, but never physiologically nor pathologically explained. One fact, however, is prominent in all proper definitions and confronts ominously all investigations, namely, that a neuropathic predisposition of a greater or less degree underlies all epileptic conditions properly so-called. In the discussion of all phases of the subject this fact must be so emphasized as to be constantly kept in mind. Our knowledge of the pathogenesis of the disease is practically *nil*. At the present stage of medical science the difficulties of the problem would seem almost insuperable; yet, until some light is thrown into it we may not hope to arrange in any very definite shape what data we possess on the question of etiology.

The most striking feature of simple or ordinary epilepsy is the epileptic convulsion. We have long assumed, and probably correctly, that the immediate occasion of it is a disturbance in a certain area of the brain which we speak of as the convulsive center, whatever that may be. To call it a vaso-motor center does not simplify the matter. The manner in which various influences may by reaching this or some other less conceivable mechanism induce epileptic phenomena is not known. We do not know by virtue of what facts certain regions acquire an epileptogenic property. We do not know, for example, in trying to account for a given case, whether the hypersensitive nerves in a prepucce are most to blame, or whether a relatively greater flaw lies in some brain area where the sensory impressions impinge, or even farther on in a motor area, or possibly in none of these. We have no data by which we can reckon in any given case what regions are most apt to acquire epileptogenic properties, and therefore no means of knowing when they are near to or remote from the convulsive centers, epileptogenically speaking. To explain what I mean by epileptogenic proximity let us borrow an illustration from physiology. A lesion in the hemisphere may cause a parasthesia in the hand and no sensory disturbance elsewhere, for the reason that in an ordinary sensory way the hand is physiologically nearer that particular limited area of the brain than any other portion of the body. Therefore physiological and anatomical proximity are not always identical. I can readily conceive of an individual with anatomical and physiological defects so disposed that some point on the periphery of the body might become epileptogenically more potent than some central point in the brain. Hence, we may assume that epileptogenic and anatomical proximity are not always identical, and therefore it is not sound reasoning to call an epilepsy traumatic epilepsy because the injury on which it is supposed to depend has been inflicted to the skull or brain.

It is true that trauma may cause organic brain disease accompanied with epilepsy, but not knowing the site of the convulsive center, nor even what region or regions of the brain are most vulnerable in an epileptogenic way, we may not assume in a given case that the injury has been in a strict sense direct. On the other hand, we may assume, inasmuch as epilepsy follows lesions in various regions of the brain, that a lesion in the brain may reflexly cause epilepsy in the sense that a lesion or injury in one locality might result in an irritation to more or less remote parts.

Thomas Carlyle concludes, if I remember rightly, one of his characteristic tirades by saying, Happily the practical is no wise dubious. I fear you will not see this in what I have been saying. Therefore, let me say that we have not reached a point in our knowledge of epilepsy when we may hope to be reliably guided by any fixed rules of diagnosis or treatment. Competent clinical experience and knowledge must count for much more than these in attempting to solve any given case, and only with these aids will reliable results and statistics be attained.

Endothelium.

BY BYRON ROBINSON, B.S., M.D., CHICAGO, ILL.,
Professor of Gynecology, Post-Graduate School.

Endothelium is considered to be a layer of flattened cells which lines the free surface of cavity that is neither

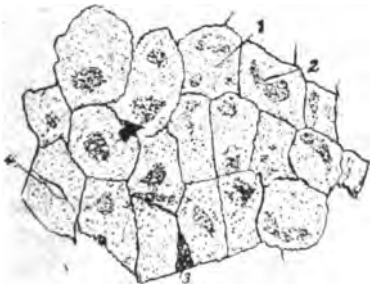


FIG. 1.—Sketched from rabbit's omentum after it was pencilled and stained with silver nitrate. They are, no doubt, germinal endothelium, as numerous similar endothelial patches remained after vigorous brushing with cotton on a tooth-pick. The endothelia are very much more brown than normal. The heavy dotted places on the endothelial surface is where the silver nitrate browned it strongly—perhaps adjacent to a nucleus. 1 points to the endothelial cell; 2, the excessive brown matter perhaps adjacent to a nucleus; 3, is a black spot which may be a stomata spuria or where some matter has fallen out; 4, is either a stomata spuria in an obscure relation or perhaps a stomata intra-endothelium. This figure I sketched as near as possible to Nature (Oc. 4, obj. 3, Reichert). The endothelia are more round in this specimen than in the normal endothelia of the remainder of the omentum, indicating a young or germinating character.

mucous nor that of a secreting gland. Endothelium is derived from mesoblastic tissue. Epithelium is derived

from hypoblastic or epiblastic tissue. Throughout the work we will preserve the name endothelium (in contradistinction to epithelium) which word was introduced by His in 1865. We think, since endothelium and epithelium are derived from totally different germ-layers, that the peculiar nucleated cells, endothelium, which arise from the mesoblast should in the interest of physiologic knowledge be differently named than epithelium which develops from epiblast or hypoblastic tissue. Endothelium lines all vessels, lymph and blood vessels, lymph sacs, and sinuses, all serous and synovial membranes, tendon sheaths, subdural, subarchnoid cavities, and so forth.

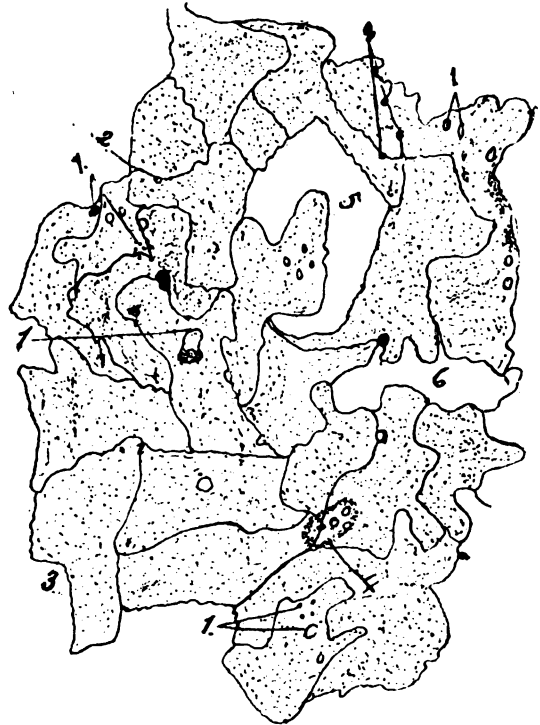


FIG. 2.—Sketched from visceral peritoneum of small intestine of frog. It was stained with silver nitrate and then stripped off. (Oc. 4, obj. 3, Reichert). 1, 1, 1, 1, point to dots or intra-endothelial stomata on the surface of the endothelia: 2, 2, stomata spuria; 3, endothelia; 4, indicates a granular body, very likely a stomata verum with 3 nuclei. It appears beneath the endothelia, but the black dot at the junction of the four endothelial cells may be closed stomata verum which will further open as the granular germinating cells grow and multiply. 5 and 6, endothelia not drawn speckled or browned by the Ag. No. 3. Notice the irregularity and difference in the size of these endothelia compared with Fig. 1. The nuclei are not indicated.

Our remarks will be confined to the peritoneum. Endothelium is modified connective tissue to which it is closely related. As soon as the remarkable discovery of Recklinghausen became known the word endothelium assumed a wide interest, for, Recklinghausen applied a solution of silver nitrate to the serous surface and there sprang into view the dark lines lying between the cells or endothelia. The precipitate is no doubt an albuminate of silver. At first the intercellular lines are ex-

ceedingly fine but as the silver nitrate solution works longer the interendothelial lines broaden toward the nucleus of the cell. The nucleus or middle portion of

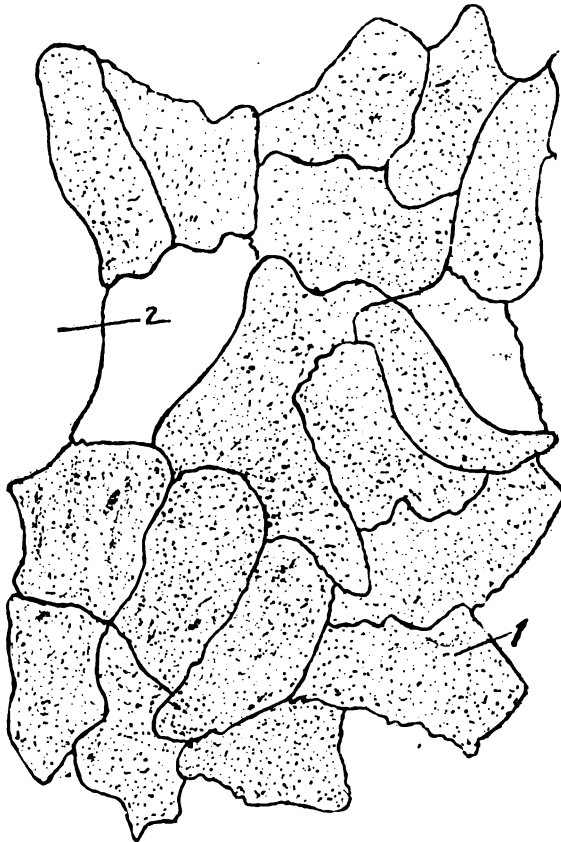


FIG. 3.—Parietal peritoneum of frog (Oc. 2, obj. 8a, R.). Ag. No. 3, applied but not pencilled. No stomata are visible, but a short distance from this spot could be seen many stomata spuria and intra-endothelial. The nuclei are not indicated. 1, endothelium speckled brown by the Ag. No. 3. 2, endothelium not drawn speckled.

the endothelial cell, is not brownish, generally, but is light. This may be due to the fact that the nucleus may be more elevated than the edges of the cell. The

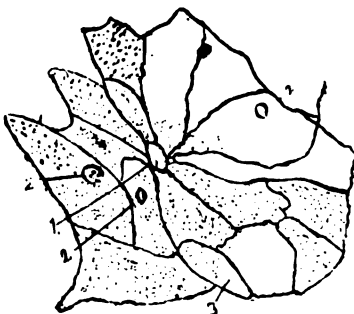


FIG. 4.—From frog's mesentery (Oc. 4, obj. 3, R.) 1, stomata verum with a nucleated granular cell; 2, intra-endothelial stomata; 3, endothelium. Observe the grouping of cells around the stomata verum 1.

reason that the first, fine, dark lines appear must be due to the fresher condition of the albuminous intercellular

matter. The endothelial cells consist of a single flattened layer. The plates are elastic and possess an oval nucleus which can be clearly brought out by the aid of solution of logwood. The endothelial plates are quite transparent. In the frog's cisterna lymphatica magna I could plainly see the endothelia of the lymphatic vessels below through the serous membrane. According to



FIG. 5.—From frog's gall-bladder, stained with Ag. No. 3. 1, endothelium; 2, points to a stomata verum, with one black dot and three nuclei. There are apparently only two granular cells in the stomata verum but that is on account, perhaps of the closure of the mouth.

Klein the endothelial plates have a kind of network but it requires very careful work to bring out such a network of fibrils. There are to be seen on the endothelial plates certain kinds of openings which I have styled

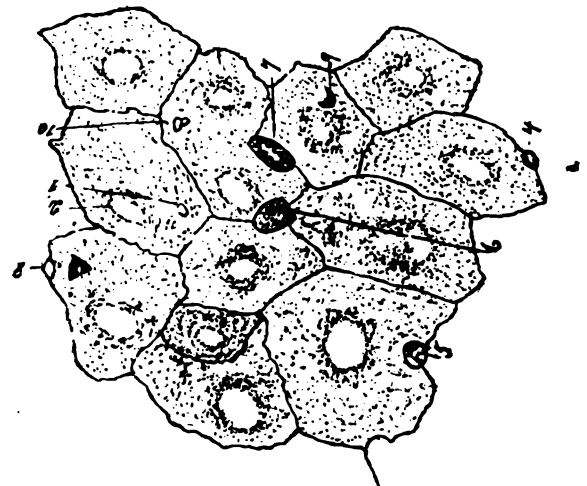


FIG. 6.—From gastro-splenic omentum of rabbit (Oc. 2, obj. 8a R.). It is stained with Ag. No. 3. 1, 10, 9, intra-endothelial openings (stomata). 2, nucleus, clear in the center but well brown at its circumference perhaps because it is elevated and is not bathed with fluid. 3, endothelium. 5, 5, 7, stomata vera. 6, has a nucleus in its granular cell. 4, stomata spuria. Note the grouping for the stomata vera.

intra-endothelial stomata. Rarely one meets with two nuclei in a single endothelial cell. Peritoneal endothelia differ very much in shape and size (confining the remarks to the peritoneal serous membrane). There is no doubt but the endothelial plates change their form on

account of their elasticity and semifluid intercellular substance. Trauma will disturb their relations. Pressure, visceral contraction and distension, as well as excessive vascular filling and emptying also change the shape and relations of the endothelia.

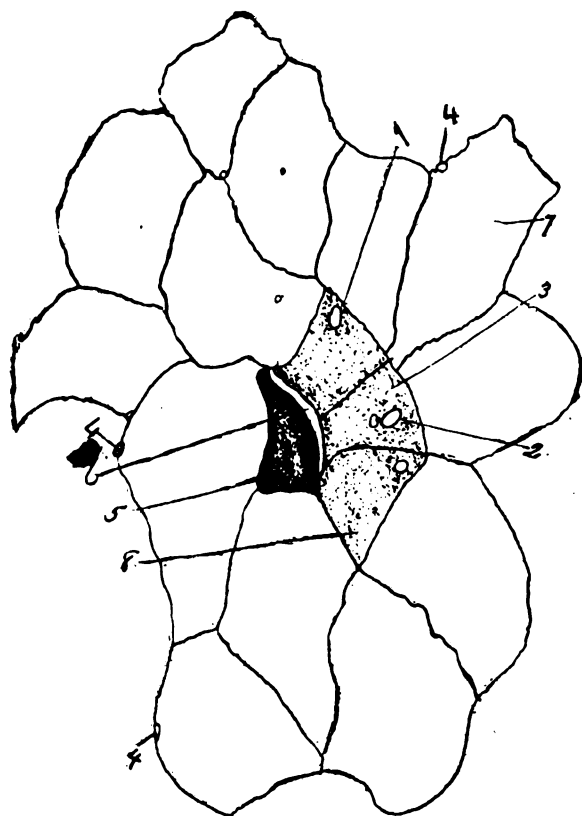


FIG. 7.—Drawn from the cisterna lymphatica magna of frog (Oc. 2, obj. 8a, Reichert). This figure shows well the grouping of endothelia around a stoma verum. 1 and 2 point to nuclei of the germinal, granular cell. 3, 8, lining the stoma verum. 4, 4, 4, stomata spuria. 5, points to a black mass; no doubt, covering the granular germinating cells which line the stoma verum. It may be observed that at 8 the granular cell appears below the endothelium and shimmers through it.

The shape of endothelia differs in various places of the peritoneal cavity. In the frog one can find giant endothelial plates on the cisterna lymphatica magna. They are enormous in size with rounded or sharp corners. On the frog's gall-bladder the endothelial plates are very much smaller with peculiar loops at the corners. The frog's endothelium is in general large and varies in different localities and viscera. The length and breadth of the endothelia are very different in different animals and also very different in the same species. However, large areas such as those of the mesentery, omentum and parietal peritoneum have similar sized and shaped endothelium. But one thing is characteristic of endothelia and that is that they exist in vast groups arranged apparently on definite plans. These groups of endothelia seem to have reference to certain openings as the stomata. Sometimes one ob-

serves the endothelia grouped about a peculiar structure which it is difficult to differentiate. In the rabbit the endothelia are in general smaller and more uniform. In the cat which seems to me to resemble man, the most of the endothelium is quite small and uniform. All endothelia which I have so far observed lies between the frog and man as regards shape and size. As life ascends in the scale of complexity the endothelial become smaller and more uniform.

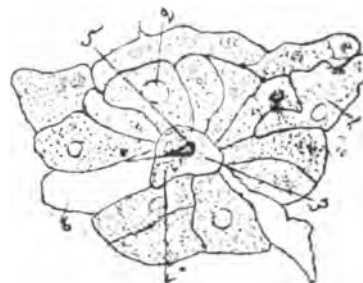


FIG. 8.—From mesoduodenum of frog (Oc. 4, obj. 8a, R.). It is stained with Ag. No. 3, and preserved in formaline. 1, endothelia speckled by Ag. No. 3; 2, nucleus; 3, stoma verum with a granular cell fallen out; 4, granular cell lining stoma verum; 5, black body; 6, endothelium, not speckled.

In endothelial membranes there are three structures to consider:

1. The stomata vera.
2. The stomata spuria.
3. The intra-endothelial stomata.

The first is by all odds the most important as it seems to me their function is very significant, viz.:

- (a) To regulate the serous fluid in the peritoneal cavity.
- (b) To furnish new endothelia to take the place of the degenerating ones.

The stomata vera are vertical canals which preserve a great communication between the serous cavity and the subserous lymphatic vessels. The best and most convenient animal to use for the purpose of demonstrating the stomata vera is the rabbit. On the gastro-splenic omentum of the rabbit one can easily demonstrate the stomata vera. Such openings are lined with round, polygonal, granular cells in which sometimes a nucleus may be seen. The stomata vera are situated nearly always at the common junction of several cells or endothelia. If one examines the gastro splenic omentum of an old rabbit well stained with nitrate of silver he will find a peculiar excessive budding of round cells adjacent to the stomata vera. These buddings are no doubt new endothelia or in other words germinating endothelia. I have found such germinating cells chiefly in the rabbit because my chief work was done in the rabbit. Recklinghausen showed that by injecting milk into the abdomen, the milk globules would penetrate those stomata vera especially. The stomata vera situated on the diaphragm (centrum tendinum) I think, therefore, that the stomata vera may be looked on as regulators of fluid

between the serous cavity and the adjacent lymph channels and also as the localities where new endothelia is produced to supply the place of degenerating comrades.

The second kind of peritoneal apertures I am unable to attribute a function or even a structure. These are the stomata spuria. They appear like black dots, either at the common junction or several cells or on a single intercellular line. Virchow considered such apertures lymph corpuscles putting up between it endothelia. Others consider them as precipitated debris or matter that has fallen out. It may be that the dark aperture is the result of traumatism. I am unable to attribute to the pseudo stomata or stomata spuria any function nor am I able to discover their structure.

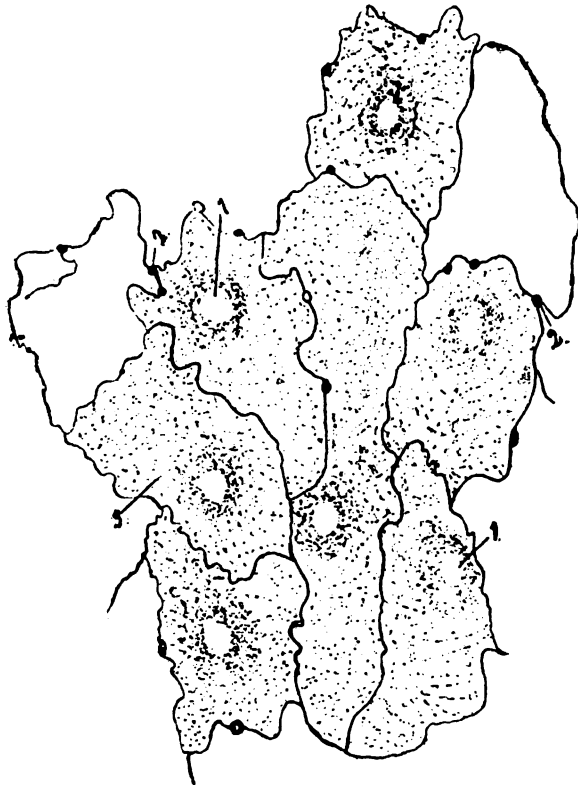


FIG. 9.—Represents the endothelium covering the lymphatic vessels of a frog's mesoduodenum. The mesoduodenum was brushed with a little cotton on a tooth-pick for four to six times which cleared away the peritoneal endothelium. 1, nucleus; 2, 2, stomata spuria; 3, endothelium. Notice how sinuous the intra-endothelial lines are which is characteristic of endothelia covering lymph vessels. The nuclei are generally situated eccentrically. No stomata vera exist in this specimen, which is rare.

The third kind of apertures or stomata of the peritoneum I have styled intra-endothelial stomata. So far I am unable to see any function or structure to these apertures. They are generally oval openings in the surface of the endothelial plate. There may be one or several apertures in a single endothelial plate. They are very irregular in existence. The characteristics of all peritoneal stomata is irregularity. They are irregular in locality and existence. The true ones may be open or shut.

MEDICAL REVIEW.

EDITORIALS

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PUBLISHED UNDER THE AUSPICES OF THE
MEDICAL REVIEW ASSOCIATION

BY O. H. DREYER.

YEARLY SUBSCRIPTION, \$3.50. SINGLE COPIES, 10 Cents.

TO CONTRIBUTORS AND CORRESPONDENTS.

All letters whether intended for publication or not must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of the meetings of their respective societies, and of officers elected.

Members of the profession who send us information of matters of general interest to our readers will be considered as doing them and us a favor, and we shall take pleasure in inserting the substance of such communications.

Communications, Medical Books for review, and all letters containing business communications or referring to the publication, subscription, or advertising department of the REVIEW, must be addressed to O. H. DREYER, Publisher 112 N. 4th Street, St. Louis.

Entered at the St. Louis Postoffice as Second-Class Matter.

The Communicability of Tuberculosis.

On a former occasion we have called attention to the difficulty of effectively exterminating tuberculosis by the prophylactic method of disinfection, and as a reason for our belief pointed out the fact that the biological characteristics of the exciting cause of tuberculosis, the tubercle bacillus, appeared to preclude the possibility of destroying this micro-organism in all its variable forms. The pathogenic and morphological attributes of the pleomorphic fungus of which the tubercle bacillus seems to represent one stage of development make the question of a successful prophylaxis in tuberculosis a problem of much difficulty. By this we do not mean to imply that all efforts of effecting a successful prophylaxis should be abandoned until the study of the morphology and biology of the tubercle bacillus has been successfully completed. On the contrary, the rules which

apply to the prophylaxis of all diseases have to be adjusted according to the newest light upon the respective subject and it would be unlogical and going to extremes if, in the case of tuberculosis, this rule should not be admitted as well. The careful removal and disinfection of all excretions and expectorated material of consumptives does certainly appear to have yielded favorable practical results in a comparatively short time and the neglect of destroying the infectious material by all the reasonable methods at the physicians' disposal would be a gross neglect of the first principles of hygiene.

The communicability of tuberculosis is a subject which has attracted much attention of late and has furnished much material for exact research as well as speculation. Recent investigations which have a practical bearing upon the question of communicability of consumption speak for the fact that the proximity of a tuberculous patient does not constitute a danger of infection for healthy persons such as relatives, friends and nurses, provided that the excretions, particularly the stools, have been carefully disposed of and the infectious material destroyed. Recent investigations of Dr. Kirchner, published in the *Zeitschr. fuer Hygiene u. Infectionen Krankh.*, have demonstrated the fact that the dust washed from the furniture and walls of the rooms occupied by consumptives are free from tubercle bacilli and that only such places which contain particles of expectorated material yield positive results regarding the demonstration of tubercle bacilli. The experiments were made by infecting guinea pigs with the material obtained by washing off the furniture and walls of the sickroom with a small sterilized sponge.

Similar results have been arrived at by other experimenters and seem to prove—what had been *a priori* expected after it was found that tubercle bacilli can not live when they are subjected to a process of drying—that the communicability of tuberculosis by inhalation of dust in the sick room is almost an impossibility, if reasonable precautions have been taken for the disposal of infectious material. That the infection by the breath is, under ordinary circumstances, an impossibility, has some time ago been proven by bacteriological investigation.

The Problem of a More Expeditious Publication of the Transactions of the St. Louis Medical Society.

A problem has recently been agitating the minds of some members of the St. Louis Medical Society which has somewhat ruffled the calm spirit of contentment of others. We have reference to the most timely effort of securing a prompter publication of the Society's proceedings. The reform element which wants a swifter dissemination of medical news emanating from St. Louis has—it may not be superfluous to add—not hailed into this city from Chicago, or the East, or the South; nor have they been recently admitted into the folds of

the St. Louis Medical Society. They are good, conservative and patriotic St. Louis physicians.

* *

The meeting of January 11, of the St. Louis Medical Society, was an exceedingly interesting, useful and enjoyable one. No less than four papers were read and discussed and the Society adjourned at an unusually late hour. The Editor of the Society Proceedings entered an energetic and very pertinent protest against the habit of some of the members of withholding their papers, because, as they claim, some alterations are to be made before the paper is in proper shape for publication. This, Editor Fuchs claims, is the main reason why he can not get the Society Transactions ready for publication in due time.

Dr. Bremer called the attention of the Editor to the fact that if papers were withheld the discussions could, nevertheless, be published and followed by the publication of the paper at a later date; that this is the custom of some of the most prominent European medical journals which seemed to yield entirely satisfactory results.

In our last week's issue we have pointed out that the method so far employed by Dr. Fuchs is an injustice to those members of the Society, who promptly turn over their papers to the Secretary because there exists a resolution of the Society to the effect that all papers must be handed to the Secretary immediately after they have been read before the Society.

In order to live up to this law of the Society it is necessary for members that their papers are completely finished before they are read; for, if they are not, an injustice is done to those members who have completed their papers and who, therefore, should precede those who have not completely finished them.

If this rule should prevail in the future, there would probably be few papers that would not be turned over to the Editor of the Proceedings promptly and where, in exceptional cases, this should occur, it would be advisable, in our estimation, that the Publishing Committee instruct the Editor to have the discussion published at once, followed by the paper in a later issue of the proceedings.

* *

The St. Louis Medical Society is a pre-eminently democratic institution and, being such, it may not be the best to make exactions of a draconic severity in order to fulfill the letter of the law. This is our personal unbiased and unprejudiced view of the matter from the standpoint of an uninterested party and as a member of the Society who has at heart its best interests.

Of course, as the Editor of the REVIEW, and in the capacity of an associate of the Publisher, our view of this question is necessarily influenced by the interests of our readers, which interests seem to coincide, however, with those of the St. Louis Medical Society, whose agreement with the Publisher of the REVIEW reads in effect, that the proceedings "must be furnished by the Society's Editor promptly so that they may appear without any delay."

In his annual report the Editor of the Proceedings stated that a few of the members who had refused to hand him their papers promptly had them published in other journals in consequence of which a delay occurred in turning them over to the Editor of the Proceedings for publication in the REVIEW. It is plain that to withhold all succeeding papers for three, four, or six weeks is a procedure of the Society's Editor furnishing just grounds for complaint on the part of those members which do turn over their papers to the Secretary promptly and in harmony with the provisions of the Society's law. We feel assured, however, that the Publishing Committee will find a way of calming the present ruffled waves of discontent.

In our opinion, Dr. Bremer struck the key-note in suggesting the prompt publication of the discussion of whatever paper may not be handed to the Secretary the same evening on which it has been read. The incongruities between the papers and their discussions, which former experiences have proven to take place, would thus be counterbalanced by the more expeditious dissemination of medical news and by the fact that those members who have done their duty do not have to suffer in consequence of the neglect of duty on the part of their professional brethren.

* *

As a member of the St. Louis Medical Society and as the editor of this journal it is indubitably our duty to add our views, in this question, to the general evidence, in order to help in the adjustment of difficulties, and solution of problems, agitating the minds of some members of the Society. Any additional light upon the apparent obstacles with which the Editor of the Proceedings has been confronted, and their satisfactory solution, will no doubt be welcomed by the Publishing Committee, whose duties are by no means of an enviable nature. We trust that our efforts in helping to adjust the matter will be received in a spirit of sincerity, and looked upon as a manifestation of wishing to do the best for all concerned.

Dr. L. Ch. Boisliniere. +

The St. Louis medical profession has lost another of the pioneer physicians of this city, Dr. L. Ch. Boisliniere, who passed away January 13 at his home 3509 Olive Street, at 1 o'clock A.M. The deceased, who reached the enviable age of eighty years, was one of the best known St. Louis physicians, having practiced in this city since 1848. He enjoyed in a high degree the respect and admiration of his colleagues, patients and friends and was universally liked, both socially and professionally.

He was born in 1816 on the Island of Guadaloupe, in the West Indies. At an early age he went to France, and thinking first to make the law his profession he graduated in law at the University of Paris. He soon began the study of medicine, however, and his interest

in the science was so marked that he was made a member of the Anthropological Society of Paris, and under its auspices spent several months in traveling in South America. He maintained his connection with the Society until his death.

When he returned to this country, in 1846, he brought letters of introduction to Henry Clay, and for some time he made his home in Louisville, Ky. He continued his medical studies and graduated at the St. Louis Medical College in 1848.

In 1870 he was appointed Professor of Obstetrics at the St. Louis Medical College, succeeding Dr. M. M. Pallen.

The degree of doctor of laws was conferred upon him by the same institution in 1879, and at his death he held the position of Emeritus Professor of Obstetrics. He was a frequent contributor to medical journals, and a short time ago he completed a work entitled "Obstetric Accidents, Emergencies and Operations," which has been adopted as a text-book in a number of medical colleges.

He was largely instrumental in bringing to St. Louis the Sisters of St. Anne, who established in this city the first lying-in hospital west of the Allegheny Mountains. He remained the physician in charge for more than twenty years.

Dr. Boisliniere was a member of the St. Louis Medical Society and the Gynecological and Obstetrical Society who sustain by his departure an irreparable loss. He leaves a widow, five daughters and a son, who is a well-known physician of this city.

BOOK : REVIEWS

Books reviewed in this column may be obtained, post-paid, by addressing the publisher of this journal, and remitting the quoted price.

An American Text-Book of Surgery for Practitioner and Student. Edited by W. W. KEEN and J. W. WHITE. Philadelphia: W. B. Saunders. 1895. Price, cloth, \$7; sheep, \$8; half Russia, \$9. Pages x—1248. For sale by subscription only.

The second, revised and enlarged edition of this work, which has just reached the reviewer's table, contains such additions as the progress of the surgical art during the last three years has suggested. It is only three years since the American Text-Book was offered to the medical public, and already it is the text-book *par excellence*. It is complete, practical and concise, and is therefore the book for the medical student and the busy practitioner.

A concise chapter on surgical bacteriology is followed

by one on inflammation, in which the phenomena which accompany "the response of living tissue to injury" are tersely explained. The process of repair of injured structures next receives attention, and then the aseptic and septic disturbances of the temperature, traumatic delirium and delirium tremens are explained. The next chapters are devoted to the consideration of the local disturbances which are observed as resulting from it and the ordinary forms of wound complications.

Tuberculosis in its various surgical manifestations is concisely but completely reviewed in a chapter together with scrofula.

Contusions and wounds, syphilis and tumors complete the first book. The second book is devoted to special surgery; the third to the surgery of the different regions, and in the fourth operative surgery is treated of.

The illustrations, borrowed and original, are for the most part excellent, the style is perspicuous and the typographical work is abreast of the best specimens of the book maker's art.

Every student should possess this volume.

LUTZ.

Medical Prescriptions.—Containing the Favorite Formulas of the Most Eminent Medical Authorities, Collected From Their Published Writings. By JOHN H. KING, M.D. New York: Bailey & Fairchild Co.

This book is a very good one of its class. It represents a great amount of labor on the part of the author. The book not only contains an extensive list of prescriptions, but is also enriched by the addition of a mass of general information, as tables of poisons and antidotes, signs of pregnancy, obstetrical data, etc. The alphabetical arrangement makes the work valuable for quick reference and in glancing over the pages one may receive many therapeutic suggestions. The author has wisely given the authority for all formulæ. T.

Principles of Surgery. By N. SENN, M.D., Ph.D., LL.D., Professor of Practice of Surgery and Clinical Surgery in Rush Medical College, Chicago; Professor of Surgery in the Chicago Polyclinic; Attending Surgeon to the Presbyterian Hospital; Surgeon-in-Chief to St. Joseph's Hospital; Ex President American Surgical Association, etc. Second Edition, Thoroughly Revised. Illustrated with 178 Wood Engravings and 5 Colored Plates. Royal Octavo, Pages xvi—656. Price, Extra Cloth, \$4.50 net; Sheep or Half-Russia, \$5.50 net. Philadelphia: The F. A. Davis Co.

The second edition of Senn's "Principles of Surgery" comes to us enriched by such editions as the rapidly progressing science of surgery has necessitated since first the work was offered as a guide to the student of medicine.

Many new illustrations explanatory of the text have been added, although some of them can hardly be said to be explanatory, and this refers more particularly to

those which are intended to depict the appearance of micro-organisms. For example: The plate illustrating gonococcus after Bumm, which appears twice—figure 84, page 220, and figure 107, page 289, can not be considered as the most approved type of the engraver's art.

Concerning the reading matter, the opinion can safely be expressed that it contains a complete resume of our knowledge of the histological and pathological processes which underlie surgical affections, and the bearing which they have upon treatment.

The arrangement of the material is logical. Sufficient practical information is blended with the scientific as to be suggestive to the student. The relationship which regeneration and inflammation bear to each other and to the organisms are especially lucidly explained.

This work will continue to be the standard.

LUTZ.

MEDICAL & SOCIETIES

PROCEEDINGS OF THE ST. LOUIS MEDICAL SOCIETY.

W. H. FUCHS, M.D., EDITOR.

Stated meeting, Saturday evening, November 23, 1895. The President, F. D. MOONEY, M.D., in the chair.

* *

D. FRANK R. FREY presented a paper (see page 37) on

A Phase of Traumatic Epilepsy.

DR. A. B. SHAW, when asked to discuss this paper, had supposed that it would be on the subject of epilepsy as it is generally considered by the professional mind, especially the neurological portion of it, and felt somewhat unprepared to discuss the particular point enunciated in the paper. The thought of calling in question the propriety of the term "traumatic epilepsy," especially where there has been an injury to the brain itself, is entirely new to speaker.

Like dropsy, epilepsy, or the symptom complexus, usually so-called, is merely a symptom. It is an expression of a state or irritability of some part or organ of the body, and viewed as such we are certainly justified in using the term "traumatic epilepsy" in designating that symptom complexus which develops as a result of an injury, whether that injury occurs to the brain direct or not. That such cases have occurred we must accept as proved when we remember that patients have been permanently cured of their convulsive attacks by trephining and the removal of a portion of thickened or chronically inflamed cerebral membrane, which, as the history indicated, was the result of direct violence to the head.

Epilepsy might properly be divided into organic and idiopathic, including under the former class those cases in which structural changes of the brain are found as the cause of the trouble, and under the latter those cases in which there is no demonstrable lesion.

Some time ago the claim was made by a noted authority that in all cases of epilepsy more or less cerebral sclerosis could be demonstrated. But many cases do occur in which we do not find any evidence of sclerotic change after very careful investigation, although epilepsy might have existed for a long time, and, in the speaker's opinion, we are just as much in the dark today as to the actual pathological condition in epilepsy as we have been at any time before.

The remarks were not offered in opposition to the views expressed by Dr. Fry, but merely to emphasize the idea that epilepsy is a symptom, not a disease.

DR. CHARLES G. CHADDOCK thought that the idea expressed by Dr. Fry, that the term "traumatic epilepsy" could be used only in those cases in which there had been direct injury to the brain, could not be maintained from a practical standpoint. We may have traumatic epilepsy in cases where a concussion of the brain has not occurred. For practical reasons the term "traumatic epilepsy" may be applied in those cases in which epileptic symptoms supervene upon the receipt of an injury, always with the proviso that even in traumatic cases the organism involved in the production of the epilepsy may be a reflex one. Even in those cases of epilepsy which supervene upon injury to the cranium, there is room for the suspicion that more are of indirect or reflex origin than we are accustomed to suppose. We have but to remember the cases cited to-night, where mere injury to the dura was sufficient to bring about symptoms characteristic of epilepsy.

It is interesting to note the relation between the irritation which the injury to the dura is supposed to excite and the convulsive phenomena produced. We know that the sensory nerve supply of the dura is maintained by the fifth and tenth nerves, which, in their origin, are already associated with the medulla. The pneumogastric vagus lies in a region of the medulla, which is close to a point sometimes called the convulsive center. The fifth nerve, by its descending root, is also brought into close connection with this point in the medulla. Binswanger has demonstrated that irritation of this portion in the medulla, in the neighborhood of the vagus center, brings about spasms resembling or allied to epileptic spasms. This may be a possible pathway for the irritation which brings about epilepsy reflexly from the dura.

The statement of the essayist, in regard to our lack of knowledge of the centers in the cortex itself which will surely produce epilepsy, will not hold good in traumatic epilepsy in general, because we can not say that injury to any one part of the cortex will bring about epilepsy.

Predisposition, in the speaker's opinion, plays a greater role in the causation of epilepsy than is ordinarily ascribed to it. It should be given more emphasis

in cases of traumatic epilepsy, since injuries to the cranium and the organism in general are occurring daily to thousands and thousands, and it is in only a small proportion of the cases that epileptic seizures follow. By a little closer study of the cases, and this round-about method of arguing we can convince ourselves that there is underlying it a predisposition to the development of epileptic seizures, more emphasized in those cases, however, which we call idiopathic. It would also be interesting to know whether, in cases of traumatic epilepsy in general, these characteristic phenomena are found as in cases of so-called idiopathic epilepsy, namely, the changes in the excretions which have been more especially investigated by Hirtel, Smith and others.

In giving a prognosis, or in determining the advisability of operating in these cases, we are apt to lose sight of the cause. We may have convulsions beginning locally, even where the remote cause is general in its activity, so far as its effect upon the cortex is concerned. When this occurs we can explain this peculiarity only by the fact that the avenue for the nervous discharge are physiologically more open in one direction than in another. This physiological path which has been established in the one primarily affected by any cause tending to produce convulsions.

DR. CRANDALL agreed with Dr. Chaddock in the statement that a predisposing element is present in all cases of epilepsy. Although it may be overlooked in the examination of cases, such as we are sometimes obliged to make, a careful search into the patient's history will never fail to reveal it. In nearly all insanities the predisposing element is very prominent. In traumatic epilepsy the predisposition is the underlying condition, while the trauma is merely the exciting factor.

In persons who have been subject to epileptic attacks pathological elements are often found in the urine, which when injected into other animals, produce tetanoid spasms. It would seem, also, that these elements are found in those persons predisposed to epilepsy, although they may never have convulsions. Cases of epilepsy may and do occur in which convulsions never develop. This is particularly true in children who have a distinct predisposition.

DR. LUDWIG BREMER fully shared the views of Dr. Fry as to traumatic and reflex epilepsy. He believed, also, that the reflex elements in epilepsy have been vastly overestimated, and that a great many cases of so-called reflex origin are in reality due to central lesions, although it is true, the lesion cannot always be demonstrated.

In all those cases of epilepsy in which speaker had an opportunity to make a post-mortem examination of the brain—there were not many, probably ten in number, but all were cases of long standing—a lesion of the brain was demonstrable. In cases of so-called idiopathic epilepsy there was found a diffuse sclerosis of the cortex, and of that portion of the white substance immediately underlying the cortex. This condition has been described

before by other observers and the first publication of the findings in cases of this kind dates back fifteen or twenty years. Basing his conclusion on his own individual findings, speaker considers nearly all cases of epilepsy as of central origin.

Speaker was present at quite a number of experiments of Prof. Binswanger, which were mentioned to night, but the attacks which he brought about were far from being epileptic. They were merely contractions of the muscles of the limbs and trunk, producing slight opisthotonus. That certainly is not epilepsy; he could never produce convulsions as Dr. Chaddock stated.

Another point which was simply touched upon by some of the speakers, is that epilepsy may be due to toxic causes, or that it originates through a peculiar condition of the blood. In his studies of the blood of epileptic patients, speaker had tried time and again to find a morphological or chemical element that might account for the convulsions. His efforts in this direction have never been successful; the finding have so far been negative, with this exception, that after epileptic attack there was an enormous destruction of the red blood corpuscles demonstrable. Of course, this observation gives us no clue as to the etiology of the trouble, as this excessive destruction of the red blood corpuscles might have been due to the shock, or the excessive involuntary muscular contractions which the patient had gone through during an attack. He had not had an opportunity of making these observations in a great number of cases, but the finding was always the same. The nature and significance of this finding he promised to present to the society in a paper in preparation at present.

Of course, we know that there are toxic epilepsies, of which the uremic and alcoholic are the most typical examples. The fact that uremic patients who have resumed a state of health, and alcoholic patients who have quit the abuse of alcohol and lead sober lives, very frequently get rid of their epilepsy shows more clearly than anything else that there is such a thing as toxic epilepsy.

Speaker considers the position which Dr. Fry takes, with regard to traumatic and reflex epilepsy, as the correct one. Even if there is no history of direct injury to the brain, and even if it can not be demonstrated by post-mortem, we have reasons to claim that certain cases are traumatic epilepsy. Where we suspect an injury to the brain, resulting in meningitis and encephalitis, trephining should be performed. Speaker maintained that there can be no meningitis without encephalitis. The inter-communication between the encephalon and meninges is so intimate that it is a matter of impossibility to have an inflammation of the covering, especially a lepto-meningitis, without involvement of the brain substance. Jarring alone is enough to render a person epileptic, whether the coup is direct or whether it is a contre coup. The brain may be injured much worse when a patient falls upon the buttocks than when a blow is struck directly to the head.

The only way to establish the reflex character of a case of epilepsy would be the production of typical epileptic seizures by an irritation of the peripheral point. For instance, a foreign body is lodged in the conjunctiva and epileptic attacks result. If the attacks cease after the foreign body is removed we are justified in saying that they were the result of the local irritation. A case similar to this was treated by Dr. Mulhall, where the removal of a tumor from the pharynx of a patient who had had epilepsy for many years was followed by cessation of the attacks. Here we have a right to say that it was reflex epilepsy, although after a time the epilepsy returned. So, also, with the excision of cicatrices which have been demonstrated to be epileptogenic zones, where their removal was followed by the cessation of the attacks, at least for a time.

Surgical interference in epilepsy has been resorted to more frequently of late on account, probably, of the boom which surgery had, but the results have been very disheartening and this method of treatment will be very much curtailed. The only case ever had by speaker in which a case of genuine epilepsy was attacked by an operation, was one in which excision of the wrist center was made. It could be demonstrated that the attacks commenced at the wrist, and being of the Jacksonian type, they would proceed upwards to the elbow, shoulder, head and finally became general. Excision of the wrist center was made and the immediate result was a very good one. The attacks ceased at first but returned after a time and finally the patient was as bad as ever. In operating upon any portion of the brain you are sure to produce a cicatrix and a new sclerotic focus, which will act as a starting point for future epileptic attacks.

A well-known difficulty in many of these cases is to distinguish between true epilepsy and hysterical convulsions. Even Charcot, with his great learning and phenomenal opportunities for observation, was not able, in all instances, to differentiate between hysterical spasms and true epileptic convulsions. In many cases, doubtless, where brilliant successes have followed comparatively minor operation, the trouble was not epileptic, but hysterical in character. Hysteria, we know, frequently yields to the most simple remedies in the most unaccountable way.

DR. KEATING BAUDUY agreed with Dr. Shaw, that epilepsy is entirely a symptom, but did not like the division of epilepsy into idiopathic and organic. Many cases are purely of a reflex character, and it is often essential, before relegating some of the cases to the domain of idiopathic epilepsy, to make a careful examination of the genitalia.

Two cases of purely reflex character had come under his observation, in one of which, a boy, there was a phimosis and redundancy of the prepuce. Retraction of the foreskin invariably produced epileptic spasms, and circumcision was followed by complete relief, although no bromides were needed at any time. There

have been no spells for years. The patient is now a physician.

In the other case, a girl three or four years of age, there was an adhesion of the prepuce to the head of the clitoris. No spells occurred after these adhesions were broken up.

DR. HENRY JACOBSON thought that the early operation and careful investigation of all head injuries would often prevent epilepsy, in that the exciting cause is thereby removed or its development prevented, even though we may have a predisposition to epilepsy.

DR. ROBERT FUNKHOUSER was inclined to regard the predisposing element, the inherited neuropathic tendency, as of great importance in the development of epilepsy. Whilst a trauma may be the direct exciting cause of the attacks, the peculiar nervous organization of the individual is probably essential to their development. There is also not much doubt that an organic lesion of the brain exists in every case, even though this may not be demonstrable. Some authors go so far as to claim that even slight blows result in a molecular disarrangement of the cerebral structures, and, if this be true, it is easy to conceive how functional disarrangement might follow in a person with a predisposition in this direction. After operating the degenerative process may continue, although the gross lesion may have been removed, and it is impossible to determine just how far it will go.

Speaker had known a patient who committed suicide, in whom epileptoid symptoms developed when he was a boy and were caused by phimosis. Operation on the prepuce was followed by cessation of the attacks and they never returned. His sister also developed epileptoid attacks when young, and they subsequently disappeared and never returned. The parents of these children were undoubted of neuropathic tendency, and the inherited tendency was unmistakable, although it should be stated that the suicide had received an injury to the head when 18 or 19 years of age.

Another case of purely symptomatic epilepsy occurred in a man, 35 years of age, who had a stricture of the urethra, and in whom epileptic seizures developed as a consequence. The stricture was not very pronounced, but the mere passage of the sound would bring on the attacks. Upon the cure of the stricture the symptoms of epilepsy disappeared entirely and have not returned to day, ten years later. He had never had epileptic attacks before the development of the stricture.

In two other cases complete and lasting recovery followed the removal of painful scars which had developed in the scalp from a chronic ulcerative process.

DR. F. R. FRY, before entering into the discussion of the subject, exhibited a photograph of the brain of an epileptic, a boy, 15 years of age. When about 13 years old he fell from a window, an ordinary story high, and struck on the back of his head. A few months afterwards he developed epilepsy. There was an apparent scar and some depression. The site was trephined, the dura opened, and the brain found abnormally congested,

especially the veins seeming turgescient. There seemed to be no further steps to be taken in the case. The boy continued to have epileptic attacks for two years or more after the operation and finally fell from a high step in a convulsion and died a few days later from the immediate effects of the injury.

The photograph showed a cholestoma the size of the last phalanx of the thumb of an ordinary sized hand, lying on the right side beneath the pons. The pons was depressed; there was a demonstrable facet in which the tumor lay, yet there had been absolutely no local symptoms to indicate the presence of the tumor, which is remarkable considering its size.

The question of etiology in a case like this one is certainly very complex. There was a blow on the head, here is this tumor, and the epileptic attacks began at the period of adolescence, 13 years, a time at which the attacks frequently develop. It is a question whether the blow to the head, the tumor, or either of them acted as the exciting cause.

The doctor disagreed with the division of epilepsy into idiopathic and organic. There must be some organic basis somewhere at the bottom of epilepsy. It may be well enough to make a division of the kind suggested; still, we immediately strike upon obstacles, sometimes practical ones, in attempting to use it. For instance, in using the word traumatic epilepsy the question arises whether we should class that with the idiopathic or organic variety. If we should place it with the idiopathic variety our position would be largely criticized. On the other hand, if we consider traumatic epilepsy under the head of organic and the epilepsy disappears after the removal of the causes which have been created by the trauma, we would again be mistaken in our classification. It is true, as Dr. Shaw has stated, that we have not yet reached a pathological basis for epilepsy.

The sclerotic condition referred to, it is true, has been found in many cases of epilepsy; but the question arises whether this condition is not an effect, rather than the primary cause of the disease. It is possible that the constant vaso-motor disturbance incident to epilepsy begets these final pathological conditions, namely, this profuse sclerosis.

In approaching a case in a diagnostic way it is necessary to determine first, the presence of predisposing factors, if that can be done. That is, determine whether the individual possesses the general evidences of a neuropathic predisposition, the stigmata, so called, of degeneration. Secondly, it is of importance to determine what evidences there are, if any, of organic changes in the central nervous system. If we discover evidences of an epileptic tendency, no matter how evident it may seem that some reflex process is at work, we should very carefully deliberate before undertaking to remove the focus of irritation or to relieve it. Dr. Crandall speaks of the necessity of deciding between predisposing and exciting causes of epilepsy, but in doing so—for instance, in a case of injury, reflex or traumatic—it

is well to consider carefully how the injury has acted; whether the trauma or traumatism has established merely a small focus or irritation, central or peripheral, or whether the nervous impression has been profound and general, disturbing, for instance, the general circulation of the brain. This is the point which speaker wished to emphasize particularly, and upon which he laid particular stress in his paper. The point may be further illustrated by citing the cases of traumatic neurasthenia and hysteria where it would be impossible to demonstrate any focal point of irritation from the trauma. A trauma, then, may produce a general profound disturbance, and we may not be able to demonstrate where the disturbance has begun which results in this deep impression on the nervous system. Speaker has under observation at present a little girl, 5 years of age, who fell on her buttocks, in the manner suggested by Dr. Bremer. It did not seem that she had fallen with great force, yet there was, for several weeks afterwards, a general disturbed condition of the nervous system, a condition of irritability, of alarm, of agitation and more or less sleeplessness, which finally culminated in a full epileptic seizure, and she has had epileptic convulsions ever since. Although she fell on the buttocks the brunt of the fall was on the brain, and the exciting cause here was doubtless the shock. It is this class of cases which speaker is disposed to call traumatic epilepsy.

The question of the toxic origin of epilepsy, suggested to-night by Drs. Crandall, Bremer and others, has engaged the attention of Italian observers and those of other nationalities, who claim to have found, especially in insane persons, paranoiacs, who are subject to convulsions, toxic substances in the urine, which, when injected into animals, will produce symptoms of irritation. There are certainly cases of epilepsy where we are impressed with the possibility of this origin. These occur in persons who seem habitually to get into a plethoric state, where the epileptic seizures are preceded for weeks by a tendency to gourmandise, where a large epileptic explosion occurs and is followed by a more normal state for a while.

Referring to the cases cited by Dr. Bauduy, in which epilepsy could be produced at will, speaker had seen a number of cases where, by pressure upon some part of the body epileptic seizures would be induced. But he has always been distrustful of the genuineness of these cases; that is, whether they were not hysterical instead of epileptic. In one case in particular slight pressure upon a scar in the scalp—which, by the way, was movable—would produce slight epileptic phenomena of the face. There would be a condition of apparent vertigo, and if the pressure was continued the patient would pass into a condition that was frightful to behold, so that one would hesitate to repeat it. There was something about the patient which suggested hysteria, but, although stripped and carefully examined, nothing was found.

Dr. Crandall also reminded us of the possibility of

epilepsy without the occurrence of convulsions. Speaker had seen cases of this kind.

In writing his paper speaker purposely avoided going into the other issues of epilepsy, simply dwelling upon those phenomena most frequently observed, apparently the simplest, and, yet, those about which we really know very little.

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ABSTRACTS

MEDICINE.

Individual Predisposition to Diphtheria.

—The December number of the *Revue mensuelle de maladies de l'enfance* contains an abstract of an article on this subject by Dr. Wassermann, which was published in the *Zeitschrift für Hygiene und Infektionskrankheiten* for 1895. The author bases his remarks on the statistics recently published by Feer and Flugge, and shows that the prevalence of diphtheria is comparatively small, even in children, and that the frequency and gravity of the disease diminish with the advancing age of the person. These facts, he says, lead us to think that a large number of persons are exposed during infancy to contact with the diphtheritic bacillus without contracting the disease.

In order to make an experimental study of this point, the author examined the blood of seventeen children and thirty-four adults who had never had an angina. He took five or six cubic centimetres of the blood and mixed it with a certain quantity of diphtheritic toxins, and injected this mixture into guinea-pigs. The results showed that out of seventeen children from eighteen months to eleven years of age, eleven possessed a very active antitoxin serum; two, a serum which was slightly active; and four, a serum which was deprived of all antitoxic properties. Out the thirty four adults, twenty-eight had a very antitoxic serum. It seemed that the frequency and intensity of this antitoxic serum increased with age.

There is the temptation, then, says the writer, to attribute the immunity of certain persons to diphtheria to the antitoxic power of their serum, an hypothesis which is based on certain clinical and experimental facts, such as the presence of virulent diphtheritic bacilli in the throats of convalescents, the presence of antitoxins in the serum of these convalescents, the resistance to diphtheritic poisoning, the presence of antitoxins in the serum of animals, the presence of virulent diphtheritic bacilli in the throats of healthy persons, etc. But, on the other hand, it is impossible to affirm that persons possessing

an antitoxic serum will be absolutely proof against diphtheria, for the degree of antitoxicity of the serum is very variable, and we do not know the quantity of toxins that it can neutralize in order to prevent the occurrence of diphtheria; it is known, also, that prophylactic injections of antitoxic serum are not successful in all cases. All that can be said in the present condition of things is that the antitoxic power of the serum is one of the principal factors in the mechanism of individual immunity to diphtheria. Where, asks the writer, does this antitoxic property of the serum come from? As the blood of animals which are naturally proof against diphtheria, such as rats, does not possess this antitoxic power, the author concludes that it is acquired, and that it may be only the result of the activity of the diphtheritic bacillus. A bacteriological examination of the secretions of the throat and nose of those whose serum possesses an antitoxic power has shown the presence of the false diphtheritic bacillus. The author then concludes that the question of the origin of this acquired antitoxic function remains undecided, as it may be due to the action of the diphtheritic bacillus or to the intervention of an organic process as yet unknown.

Another question studied by the author was that of whether the existence of diphtheritic bacilli in persons having an antitoxic serum could make them a medium for the spread of the disease. In twenty children, brothers and sisters of diphtheria patients who were under the author's observation, he found virulent bacilli in three, only one of whom contracted the disease. From this Dr. Wassermann concludes that the disinfection of a diphtheritic patient's apartment should not be attempted until after we have ascertained the absence of diphtheritic bacilli, not only in the patient himself, but in the members of his family.—*New York Med. Jour.*

A Preparation of Milk for Diabetic Patients.—In the *British Medical Journal* Dr. Sydney Ringer writes that the extremely meagre and distasteful diet of the diabetic patients induces him to draw attention to a preparation of milk which he hopes may be found useful and not distasteful.

In the *Journal of Physiology*, vol. xi, p. 473, and vol. xii, p. 164, in recording experiments with caseinogen and casein, he says, he drew attention to a method of preparing caseinogen from milk, which is freed from all sugar (and salts). The following is the method: Add to a pint and a half of milk about ninety cubic centimetres of a ten per cent solution of acetic acid. This precipitates a curd caseinogen. It should be allowed to settle, and the clear fluid siphoned off and distilled water added. After settling, this should be decanted or siphoned off, and this curd should be filtered and well washed with distilled water. If it is then rubbed up in a mortar with some calcium carbonate, and water is added, all the caseinogen becomes dissolved; the calcium carbonate soon settles and the milky fluid can be decanted off. The dissolved caseinogen

behaves just like milk. If rennet, a calcium salt are added, and the mixture is heated to 104° F., it quickly clots, and the caseinogen becomes changed into casein, which precipitates by combining with the calcium salts.

Mr. Martindale, says the author, with the aid of his able laboratory assistant, Mr. Lee, has lately made some of this solution of caseinogen, or, in other words, milk without the sugar of milk. They find that the caseinogen settles better after the addition of the acetic acid if the milk is diluted with an equal quantity of water, and they filter and wash the precipitated caseinogen on a calico filter, which allows the washing to be made quicker than in his experiments where he used filtering paper. On the addition of about two per cent of glycerin to the mixture of caseinogen a not unpalatable form of milk is produced.—*New York Med. Jour.*

Bronzed Diabetes.—This affection, described for the first time in 1882 by Hanot and Chauffard, is the subject of a more extended study by Dutournier in *Journ. de Med.* At the beginning this form of diabetes does not seem to present any special feature. Thirst, polyuria, glycosuria, and great appetite are present in variable intensity. In some cases pulmonary symptoms, such as intense bronchitis, are present from an early date. But at period somewhat difficult to accurately determine the chief sign of the affection appears—pigmentation of the skin. When this established, the principal features of the case are, besides pigmentation, diabetes, cirrhosis of the liver apparently hypertrophic in character, and very rapid cachexia. Later on a more or less marked ascites occurs, which may call for drainage of the abdominal cavity. Dryness of the mouth, inflammation of the gums, etc., are even more marked than in the ordinary form of diabetes. The pigmentation of the skin, which forms the salient feature, is described as a uniform lead color or a dark grey, not unlike that seen in anguria. It is uniform in distribution, and rarely are there any points of hyperpigmentation, although there may be a somewhat darker coloration of the back of the hands and forearms. Pigmentation of mucous surfaces seems to be very exceptional, only one instance being on record. The writer draws special attention to the constant and rapid cachexia observed in these cases, characterised by rapid wasting, extreme weakness, and inability to do anything. This weakness appears at the same time as the pigmentation of the skin, and differs from that usually seen in diabetes by its earlier appearance, its greater intensity, and its rapid fatality. The duration of bronzed diabetes is never long, rarely exceeding eight or ten months, two years being quite exceptional. At the same time it may remit to a slight degree, remission being always followed by more rapid symptoms. Death seems to take place by coma or profound cachexia. The nature of these cases and their relation to the ordinary form of diabetes, is quite uncertain. Post-mortem marked cirrhosis of liver, accompanied by great accumulation of pigment, pigment

granules, sclerosis and pigmentation of the spleen, pancreas, lymphatic glands and lungs have been found. The kidneys appear relatively healthy. The pigment seems to be of hematic origin, and is intravascular, intracellular, and interstitial. The author suggests that in these cases there is a decomposition of hemoglobin brought about by some as yet unknown case.—*Brit. Med. Jour.*

Myocarditis in Alcoholism.—Aufrecht (*Therapeut. Monatsheft.*) discusses the symptoms and treatment of alcoholic myocarditis. The history, together with shortness of breath, increased cardiac dulness, irregularity of pulse, and perhaps a soft systolic bruit, are the characteristic features of the condition; enlargement of the liver and albuminuria may aid the diagnosis. General edema and ascites may be present, and it is particularly to be noted that the prognosis is not necessarily made worse thereby; even in cases where repeated paracentesis abdominis is necessary, the prognosis is by no means so unfavorable as is asserted. Absolute abstinence from alcoholic drinks is the first essential in treatment, and no evil results from the sudden abstinence even in the most inveterate drinkers; indeed, the best results have followed in severe cases from immediate abstinence. Residence at a spa may be advantageously combined with this; and in some cases rest in bed may be necessary for irregularity of the heart. The sovereign remedy in all cases of heart failure from alcoholism is digitalis. In some cases diuretic is valuable in reducing edema, and with this may be combined the use of warm baths. Complete recovery may be looked for where only the early heart symptoms are present, and, indeed, even where is enlargement of heart and liver with albuminuria, if only of short standing; in cases where there is hypertrophy of the heart with interstitial hepatitis and chronic albuminuria, improvement may be considerable and the patient may live for years.—*Brit. Med. Jour.*

SURGERY.

Murphy's Button in Resection of the Bowel.—Brenner (*Wein. klin. Woch.*) records his experiences with the button, the value of which he does not consider to be fully appreciated in Germany. Before its introduction he had performed 17 typical resections, of which 12 recovered and 5 died, only 1 through failure of the sutures. Of 6 intestinal anastomoses 3 died within the first two weeks after the operation; the cause of death was not insufficiency of the stitches, but exhaustion from the length of the operation. On the other hand, out of 7 gangrenous herniæ in which the condition of the patient did not warrant resection of the intestine, and in which an artificial anus was therefore made, 6 died within a week; the other recovered but was not cured until the gut had been resected. Latterly the

author has used the button in 7 operations; 6 patients recovered, 1 died from acute peritonitis entirely unconnected with the apparatus. Three of the cases had gangrenous herniæ; in these the button was passed on the sixteenth, fourteenth, and eighth day respectively. Once lateral anastomosis was effected between the ileum and the ascending colon after resection of the stenosed ileum and cecum; the button was passed on the seventh day. Once the ileum was attached to the transverse colon after removal of the ascending colon and cecum for carcinoma; button passed on the eleventh day. Once the two ends of the transverse colon, resected for carcinoma, were united; the button did not come away for two months. In the remaining case, the only fatal one, the duodenum was affixed to the posterior wall of the stomach after resection of the carcinomatous pylorus. The use of the button was always supplemented by a row of Lambert's sutures. No ill result ever followed its employment except a temporary obstruction in 1 case, easily overcome by gentle massage. Brenner considers that this method is superior to any other procedure for resection of the gut, and is specially indicated as a substitute for the production of an artificial anus in gangrenous herniæ.—*Brit. Med. Jour.*

Electrolysis for the Surgical Treatment of Strictures.—J. A. Fort, M.D., in the *New York Medical Journal*, from a paper read before the Section in Genito Urinary Surgery of the New York Academy of Medicine, says: It affords me great pleasure to have the honor of being allowed through the kindness of your President to present to you a new instrument which I have devised and called "electrolyser," for the surgical treatment of strictures by the "linear electrolysis" method.

It is a well-known fact that electrolysis has been discarded on account of the imperfect instruments which were used. My electrolyser has all the advantages of the urethrotome and none of its inconveniences. It looks like a small whip of which the handle contains a metallic wire projecting from the end which connects with the flexible part. This instrument, being first introduced into the urethra, is connected with the negative pole of a continuous-current battery, and the positive pole is connected near the affected part, on the front of the thigh or over the pubes; then the current is turned on.

The operation which is almost painless, requires 30 seconds (on an average), with a current of a strength of at least ten milliamperes, as indicated by means of a galvanometer. The electrolyser remains perfectly cool during the operation. In nearly all cases there is no bleeding, or but very little. The urethra is made aseptic before and after the operation, in order to prevent fever. I never allow a sound to remain permanently in the urethra for any length of time after the operation.

Usually the wound resulting from electrolysis heals quickly without any treatment whatever, and often the

patient can attend to business immediately after the operation. (When the wound does not heal, I merely prescribe injections morning and evening with one part of hydrozone to twenty parts of water). In nearly all cases I pass a sound the third day after the operation, also the day after. I instruct the patient to pass a sound, No. 22 or 24 F., every month and every other month.

With the urethrotome, which cuts blindly, the surgeon can not ascertain the degree of density of the tissue of a stricture. On the contrary, by means of electrolysis, which merely produces a molecular destruction of the stricture, although the instrument remains cool, I have been able to demonstrate that there are two classes of strictures—soft and hard. Hard strictures are in the proportion of one against five soft ones.

The time required to perform the operation varies with the density of the stricture. Some strictures are so hard that they can not be successfully operated upon by electrolysis.

If my American colleagues who are familiar with the French language are willing to refer to one of my books entitled *Traitement des retrecissements par l'électrolyse linéaire* (this book can be procured at the library of the Academy of Medicine), they may find it quite interesting, as it will enable them to understand the improvements which have gradually been introduced in the applications of electrolysis to surgery during the last fifteen years. They will also understand how I have applied electrolysis to the treatment of strictures of the urethra, uterus, rectum, and esophagus.

Up to date, I have performed in Europe a hundred and thirty five operations on strictures of the esophagus (recorded in my book), and with the exception of those which were caused by malignant growths of the wall of the esophagus all recovered.

It has been my good fortune to meet here some leading surgeons who are authorities in the treatment of strictures, and I am very grateful to them for their kindness in giving me the opportunity to demonstrate the advantages of my method in operating upon some of their patients.

OBSTETRICS AND GYNECOLOGY.

Uterine Trachelorrhaphy.—In the November number of the new London monthly journal entitled *Clinical Sketches Illustrative of Practical Medicine and Surgery*, we find in an article by Dr. Arthur E. Giles, of the Chelsea Hospital for Women, the following section, under the heading of "The Kind of Cervix that Requires Trachelorrhaphy:" While readily granting that in certain appropriate cases repair of torn cervix may be followed by the disappearance of general nervous symptoms, I have so little confidence in the value of this or any other operation for the cure of nervous disorders as such that I shall leave this aspect of the

question altogether, and confine my remarks to the indications for trachelorrhaphy afforded by definite local conditions.

"When a cervix is torn (as during labor) the raw edges become healed over by granulation and cicatrization, but, as a rule, without uniting. The resulting fissure does not necessarily give rise to symptoms, even if deep or bilateral. For the cervical mucous membrane may gradually acquire the characters of the vaginal epithelium; the external os retreats, as it were, toward the internal, while the anterior and posterior lips of the cervix become in reality lips or lappets, which can be readily separated to a greater or less extent. A cervix in this condition is not uncommonly discovered when a vaginal examination is made on account of other symptoms; and we may admit, as a general statement, that a laceration that healed over does not, as such, require repair.

"If a general neurotic symptoms are found to coexist with such a condition as I describe, an attempt to cure them by local treatment will be an almost certain failure.

"But the lesion may take a less favorable course. The exposed cervical mucous membrane may become unhealthy, either alone or as a part of a general endometritis; it then becomes congested, and, in consequence, the lips become separated. I believe that the tendency to separation is exaggerated by a marked coincident flexion of the uterus. The everted mucous membrane is then bathed in the unhealthy secretions (arising partly from the uterus) found in the vagina; and it is but a short step from this condition to that of erosion, with the formation of the retention cysts known as Nabothian follicles. The congestion and edema of the cervix commonly spread to the body of the uterus, which becomes heavy and enlarged, resembled the condition found in subinvolution. With the chronic endometritis and metritis so produced is frequently associated prolapse of the ovaries into Douglas' pouch; especially when there is also retroflexion. The ovaries share in the congestion and become unduly sensitive. The usual symptoms complained of under these circumstances are abundant leucorrhœa, sacral aching, a feeling of weight and 'bearing down' in the pelvis, and dyspareunia.

"We have here in outline the picture of a case requiring the operation of trachelorrhaphy. Yet must this not be done at once; a little preparation is necessary. Firstly, the patient should be kept in bed for ten days if circumstances allow; and meanwhile the congestion is relieved by the usual applications of tampons and douches. The uterus should be restored to its place when this is possible, and one or more applications may be made to the endometrium, according to the extent of the endometritis. In some cases these measures will suffice for relief, or even temporary cure; but there is considerable likelihood of a return of symptoms. But in any case this stage should be arrived at before repair is attempted, otherwise there is risk of non-union, and so of failure of the operation."—*New York Med. Jour.*

NOTES AND ITEMS

Dr. S. Riddle Goffe has succeeded Dr. Geo. M. Gould as editor of the *Medical News*.

The Rock River Medical Association met in Dixon, Ill., on January 8. Drs. E. B. Owens, J. B. Grandall, of Sterling, J. F. Keefer, of Rock Falls, A. E. McBride and Jane Reid Keefer, of Sterling, read papers.

Dr. George Dock, at present Professor of Practice of Medicine and Pathology in the University of Michigan, Ann Arbor, has been elected Professor of Pathology and Bacteriology in the Jefferson Medical College.

Alumni Association of the Missouri Medical College.—The regular monthly meeting of the Missouri Medical College Alumni Association took place on Thursday, January 9. We glean from the programme that the speakers of the evening were Dr. W. A. Hardaway, who spoke on the subject of "Diagnosis and Treatment of Ulcerations of the Face," and Dr. H. A. L. Rohlfing, whose subject was "Development of Ovarian Cysts, with Demonstrations,"

Prof. C. O. Curtman.—The meeting of the St. Louis Medical Society of January 11 was honored by a paper from the pen of Prof. C. O. Curtman, M.D., entitled, "The Significance of Hair in Forensic Medicine." The exact scientific work and the many contributions to medical and chemical literature have made Dr. Curtman a popular and highly esteemed and honored member of the profession in this country as well as abroad. We are pleased to announce that the paper referred to will appear in an early issue of the REVIEW.

The City of Dale, the birthplace of Pasteur, has decided to erect a suitable monument to the memory of its most illustrious son. The Council of the City has appropriated \$1,000 and the Berlin Medical Society has subscribed \$250 to the sum. The Treasurer of the Memorial Committee is M. Palluy, Dale, France, to whom all contributions may be sent. The memory of this great man will, no doubt, be well preserved, as movements have been instituted to erect memorials in Paris, Chartres and other French cities.

Tea Cigarettes.—The *Lyon Medicale* for December 1 says that fashionable English ladies are no longer content to drink tea, but that they smoke it at their five o'clock teas. A lady who is very well known always has tea cigarettes passed around after dinner. Another spends nearly two pounds sterling a week in order to gratify her taste for tea cigarettes, and three celebrated

actresses have given tea smoking parties several times. In Kensington a number of literary ladies have organized a club for this same purpose. The habit has spread so elsewhere that tobacco merchants are offering packages of tea cigarettes to the public.—*N. Y. Med. Jour.*

The Legal Valuation of a Lost Limb or Member.—In the case of James Roberts, a brakeman, against the New York, New Haven and Hartford Railroad Company, before Judge Lacombe in the United States Court, the jury returned a verdict for the plaintiff for \$5,000 (*Jour. Amer. Med. Ass'n.*). Roberts sued to recover \$50,000 damages for the loss of his right leg through being struck by a low bridge. In the case of Rouss vs. the New York Biscuit Company, before Judge Wallace in the United States Circuit Court, the jury recently returned a verdict for \$10,000 for the plaintiff. Rouss lost his right hand through an accident while at work in the defendant's factory. He sued to recover \$20,000.

The Twelfth International Medical Congress.—The date of the Twelfth International Congress, to be held in Moscow, has now been definitely fixed for the week August 19-26, 1897—cholera and the state of the political atmosphere permitting. The Czar has signed the Imperial Rescript sanctioning the Congress, and His Majesty's uncle, the Grand Duke Sergi, Governor-General of Moscow, has consented to be its patron. The President will probably be Professor Klein, the Dean of the Medical Faculty of Moscow University; Professor Erisman, Professor of Hygiene in the same University, will be General Secretary. The Russian Government has granted a subvention of 120,000 francs toward the expenses of the Congress. The official languages of the Congress will be French and German.—*British Medical Journal.*

Department of Public Health.—At a meeting of the North Texas Medical Association, at Greenville, Texas, the following preamble and resolutions were adopted:

WHEREAS, In the opinion of this Association, the condition of the United States demands a department of Public Health, under the control of a Secretary, who should be a member of the Cabinet of the President of the United States, in the interest of the public welfare and the prosperity of our country, therefore be it

Resolved, That our members of Congress be urged to support the bill now pending and use their influence in securing its passage.

Resolved, That the Secretary be requested to transmit to our Senators and each Representative in Congress a copy of this preamble and resolutions.

Resolved, That a copy of this preamble and resolutions be spread upon the minutes of this Association.

J. C. ERWIN, President.

R. D. PORTS, Secretary.

Greenville, Texas, Dec. 11, 1895.

MEDICAL REVIEW,

A WEEKLY JOURNAL OF MEDICINE AND SURGERY.

VOL. XXXIII

ST. LOUIS, JANUARY 25, 1896

NO. 4

ORIGINAL ARTICLES

Primary Hematomyelia. Traumatic and Non-Traumatic. A General Review of the Subject.

BY WARREN B. OUTTEN, M.D., ST. LOUIS.

Read before the St. Louis Medical Society, November 30, 1895.

The rarity of primary hemorrhage into the substance of the spinal cord is noticed by all competent authority, and its existence is even denied by some whose opinions have always commanded the most pronounced attention. However, the generally accepted opinion of the great bulk of authors is that hemorrhage into the cord in its primary form can and does exist. More recent views on the subject seem to tend in the direction that the rarity of hemorrhage in the primary form into the substance of the cord are not as infrequent as they were formerly supposed. If the general proposition of Charcot and Hayem be correct, that softening of the cord must always precede the hemorrhage, then it would be naturally inferred that primary hematomyelia is an impossibility. It is stated that equal force, however, comes from the assertion, "that we may be unable, even with a microscopical examination, to settle the question whether we have to deal with a primary softening and a secondary hemorrhage or primary hemorrhage and secondary softening."

Some writers upon the subject aver that the diagnosis of hemorrhage into the substance of the cord is not entirely free from doubt, though in some instances it is reasonable to suppose that, in those particular cases, where, after the injury, the onset of the disease is immediate, and that the diagnosis can be made. Admitted that there is great difficulty in making a differential diagnosis between hemorrhage myelitis and hemorrhage into the spinal meninges, it is, of course, well known that hemorrhage of the cord may be associated with myelitis, with syringomyelia, etc. Again, as stated by Gowers, minute hemorrhages are often found after death from diseases which interfere with the respiration and

cause venous congestion, they being particularly frequent in cases which cause functional excitement of the cord, as in cases of severe convulsions and tetanus. These are secondary hemorrhages.

Again, even in cases where post mortems are made, clouded conditions not infrequently enshroud the proper elucidation and determination of existing lesions. Certain it is that the lack of uniformity and diversity of these opinions in this trouble are justifiable from the many adverse elements surrounding it. It will not be out of place to quote a few opinions regarding this subject by various writers, whose views are accepted as worthy of cognizance and belief. Gowers maintains that hemorrhage into the spinal cord sufficient to cause symptoms "is a very rare disease, and it is even more rare than is suggested by the cases now and then recorded as such. It is possible that many cases of secondary myelitic hemorrhage have been regarded and described as primary, and it is possible that a few cases of primary hemorrhage have been regarded as secondary." One writer goes so far as to deny the occurrence of primary non-traumatic hemorrhage, but such an exclusive view is unwarranted. It is certain, however, that the history of primary hemorrhage has been very largely written from uncertain data, and will need revision when a sufficient number of exact observations have accumulated. He asserts that of the immediate causes trauma is the most frequent—over-exertion, exposure to cold in rare cases and chronic alcoholism have been thought predisposing.

In one case he mentions, where an extensive hemorrhage into the gray substance at the top of the lumbar enlargement resulted from coitus four times repeated, the symptoms commencing suddenly after the fourth act. Suddenness of the onset is characteristic of the disease. Pain commonly accompanies the sudden palsy, and may be felt in the spine or sacrum, round the trunk and at the front of the thorax. He thinks it highly probable that when there is initial, medial or bilateral pain, the hemorrhage must occur in the central region of the gray matter, from one of the commissural or anastomotic arteries. When the hemorrhage is in the cervical region all the limbs are powerless; one arm is affected before the other. Occasionally symptoms of ascending or descending myelitis may come on. The former cause death by interfering with the muscles of respiration.

Hirt asserts that while primary hemorrhage from

cerebral vessels is one of the most common causes of lesion of the brain, spontaneous hemorrhages from the spinal arteries are exceedingly rare, and, indeed, it seems hardly possible that a hemorrhage could take place into the substance of the cord so firmly held together as it is by the tough pia mater, without previous existence of alteration in its consistence. He maintains that the anatomical condition of the arteries renders the blood pressure less before it reaches the cord. Both he and Gowers note the absence of miliary aneurisms in the spinal cord, while in the brain they are the most frequent cause of hemorrhage. They believe that primary hemorrhages do occur at various ages and from various causes, and that its inception is always sudden. Osler notes the fact that the existence of primary hemorrhage into the cord has been denied, says that a great majority of authors admit the existence of the primary form. Forty-two cases are on record mentioned by Hayem and Berkeley. Extreme suddenness marks the onset, extravasation of blood into the gray matter. Kraft-Ebing in reporting three cases of primary hematomyelia confirms Leyden's statement concerning the rarity of this affection as recorded in literature, by stating that of 245 organic diseases of the cord, which he has observed, in only three cases was the diagnosis made during life or on autopsy. The diagnosis in two cases rests upon the sudden appearance of severe pain, paralysis and anesthesia. The subsequent disappearance of much of sensory and motor trouble, which depended upon shock and the detention of certain disturbance of function, indicating focal destruction.

Sharkey reports a case of primary traumatic hemorrhage into the spinal cord with an autopsy. A boy, aged 11, fell while skating; he walked home apparently unhurt. Felt pain in the shoulder and abdomen, and after two hours was unable to walk; when admitted to the hospital had pain in the abdomen and legs, a pulse of 144, temperature of 101.8, retention of the urine, complete paralysis of the legs, with impairment of sensation as far up as the fourth or fifth dorsal spine. Patient died after eight days, of pneumonia. No injury to back or spine or its membranes was found on autopsy. A section was made of the spinal cord, and extravasation was found occupying nearly all the transverse extent of the cord. Hemorrhage seemed to extend to the upper cervical region and as far as the mid-dorsal region. Microscopical examination revealed that the hemorrhage was the only pathological condition present in the cord, there being no sign of inflammation or other disease.

Ellis, Boinet, Diller, Siemen, Nichols and Hoch (two cases) all report cases, but they are not substantiated by post-mortem verification.

J. Kindred, of Harrisburg, Pennsylvania, describes a case of spinal hemorrhage, which is noteworthy. It occurred in a patient without a perceptible cause, a male, aged 59 years, in previous good health and no preliminary symptoms were manifest. The symptoms were at the highest state of development three hours after the

occurrence of the attack. Paralysis and anesthesia, below the fifth dorsal vertebra, girdle sensation around the body, preceded by fugitive pains, patient dying six and half hours after the beginning of the attack. Post-mortem examination revealed a blood clot about the size of an almond in the gray substance below the level of the fourth upper vertebra. Softening had extended in the neighboring parts. Sudden death no doubt occurred because of implication of the phrenic centre by a gradual ascension of the hemorrhage.

Diller also reported a case of purely idiopathic hemorrhage occurring in a male aged 51 years. It is uncertain in this case and one mentioned by Fortin, of Rouen, France. Recovery was complete in both, hence it is not proven in either one of these cases that primary inter-medullary hemorrhage involved the cord.

Minor, of Moscow, considers at length the subject of hematomyelia, asserting that a close relation exists between central hematomyelia and syringomyelia. He asserts that following spinal trauma, central glioma and syringomyelia have been developed, and makes the assertion that if spinal symptoms occur immediately after trauma hemorrhage of the spinal cord must be suspected. In four cases which Minor found resulting from trauma many symptoms resembled those of syringomyelia. For instance, the characteristic dissociation of sensibility. As the patients in question are still living the diagnosis has not been confirmed. He reports a fifth case where death occurred from traumatic hematomyelia; autopsy revealed tubular hemorrhage throughout the entire gray matter of the spinal column.

Raymond of Paris reports a case where a girl was operated upon for caries of the cervical vertebræ. Patient died 15 hours after the operation. Post-mortem showed hematomyelia of the lower cervical cord. This, in Raymond's opinion had existed for some time before, and probably had been increased by the operation.

Manly reports more than 70 cases of trauma of the spinal vertebræ and 13 autopsies. He states that in 642 cases of severe injuries of the vertebral column, that he did not find a single case of primary uncomplicated hemorrhage into the medullary substance, but a goodly number of extra thecal extravasations of blood in the vertebral walls are recorded. Manly emphasizes the fact that the medullary substance of the spinal cord is very slightly vascular and demonstrated this by penetrating directly into the spinal cord of a dog with a needle. He makes the assertion that no true hemorrhage occurred, and draws the inference that a direct primary hemorrhage of the medulla very seldom occurs as a result of trauma.

Minor, of Moscow, mentions three new cases in which he suspected spinal hemorrhage, although in the third case there had been no trauma.

Stembo, of Wilna and Shiwege, of Moscow, quote two cases of traumatic hematomyelia.

Both Minor and Stembo mention the fact that the symptoms may already resemble those of syringomyelia. It will not be out of place at this juncture to refer to

surgical writers upon the subject. It is hardly necessary to quote at length from more than a few most noted ones upon the subject. "The American Text Book of Surgery" says of intra-medullary hemorrhage of the cord: "The onset is sudden, there is a history of traumatism or disease associated with profound blood changes. The symptoms are bilateral, there is pain in the back with disappearance of the reflexes connected with the affected segments, spasms, rigidity and paralysis come on rapidly, as do also the girdle symptoms. Bed sores, incontinence of the urines and feces develop early in the case, which runs a rapid course and is often fatal." Hemorrhage into the substance of the cord is nearly always the result of forced flexion and naturally occurs in the region in which fracture by direct violence is most common. Sometime the similarity of origin is shown by their occurring together, but independent of each other. It is possible, however, that it may occur by direct violence also. The hemorrhage nearly always lies in the gray substance of the cord, because it is the softest and the most vascular part, and it may occupy an indefinite length. The effect is immediate, becoming intensified later as the hemorrhage extends. Motion and sensation are lost over a corresponding area. Reflex action is suspended for a time, but rarely is so complete as when the cord is crushed, and then later as the circulation around the injured area becomes more active. Hyperesthesia sets in, motor disturbances are rare. The extravasated blood may be in a great measure absorbed, leaving a certain degree of anesthesia with paralysis, or spastic rigidity of the muscles corresponding to the part of the cord that has been destroyed. Or, on the other hand, red softening or myelitis may follow. The paralysis extends higher, bed sores and cystitis set in, and if the injury is in the cervical region phenomenal temperatures just as when there is a fracture." (Moul-
lin.)

Thorburn, in his work on Surgery of the Spinal Cord, is struck by the relative large number of cases of hemorrhage within the the vertical canal unaccompanied by any evidence of injury. He likewise notes the comparative neglect of hematomyelia as a result of injury to the spine, owing to their not being verified by post mortem examination, and seems to think that they are not nearly so fatal as fractures and dislocations, and believes that their pathology is not generally recognized. In 15 cases of fracture and dislocation which he has treated all but one was fatal, whereas, in six cases of hemorrhage, only two died; and he states the only possible means of diagnosis is that all the symptoms may be due to a single focus of injury, but even if not demonstrable the symptoms are allied. He divides hemorrhage into the gray matter of the cord into "destroying" and "compression" lesion; the former are permanent, the latter more or less temporary. The result of the "destroying" lesion is atrophic paralysis. The compressing lesion may produce more or less complete paralysis and anesthesia, retention of the urine and feces, which, as a rule, soon subside, leaving only some spas-

tic symptoms in the lower limbs. He concludes with the following: "The lesion in which hematomyelia is found to occur also favors this view. In all the above cases it was located in a small area, limited by the region of origin of the four lower cervical and the first dorsal nerves, a region corresponding to the body of the fourth, fifth and sixth vertebræ. Above or below this section of the cord, I have not met with a single instance of traumatic hematomyelia, a fact totally unaccountable on the concussion theory. This is, however, the summit of the arch formed by the cervical curve, and is, therefore, the region in which an acute bend of the neck would make itself mainly felt, especially if the effects of such a bend were spread over several vertebræ, straining somewhat the articulations of each, without giving rise to a dislocation."

Dr. Ira Van Gieson read before the New York Neurological Society, a paper entitled "Hemorrhage Necrosis of the Spinal Cord," presenting points of more than ordinary interest, and calling attention to what seem to him to be an explanation of the nature and origin of certain long slender columns of necrosis in the spinal cord, found in cases of acute myelitis, and which were at a considerable distance from the myelitis focus, and were, in his opinion caused by hemorrhage.

The New York *Medical Journal* says: "The author then gave the history of two cases of traumatic spinal cord hemorrhage, which had recently come under his observation, and showed the close relationship which they bore to the production of these long columns of necrosis, or partly necrotic canals in the spinal cord, which were thus far known as perforating necrosis. In both of these cases there had been violent trauma, which fractured the spinal canal and produced a crushing bruise, with disintegration of one or more segments. Both the patients had died within forty eight hours after the accident, thus allowing the lesions to be studied before the development of any extensive myelitis of necrosis. In the first case, the lesion had consisted of a disintegration of the cord at the eighth cervical segment and hemorrhage in the two segments above and below this show especially on the left side of the cord. In the second case there had been a fracture of the eighth cervical vertebræ, with a crushing bruise of the first and second dorsal segments of the cord. Columnar hemorrhages were found extending upward and downward from the crushed segments."

In conclusion, Dr. Van Gieson regarded the condition of perforating necrosis as a distinct and individual lesion of the cord, due to a definite series of changes, beginning with hemorrhage. To indicate this condition and to distinguish it from other spinal lesions, he suggested the name of hematomyeloporosis.

It is not essential, at this time, to show the breadth of trauma as a disease-producing agent, as that has been a fruitful theme, essayed by everyone in consideration, both of brain and cord injuries. It is, however, pertinent to the subject in consideration to mention that trauma of the spinal cord covers almost the entire extent

of cord symptoms. They are of indefinite number, not only as regards their great diversity and type, but equally so as to relating to their generally various stages. All kinds of injuries to the cord are at times competent to produce myelitis. It has been noted by many writers upon the subject that a myelitis produced by a concussion is far more extensive than that ordinarily occurring in primary myelitis, as the latter may manifest at times only a few symptoms, while the former are very prominent in a great many of the symptoms in a remarkably short time. Thus Gowere, in speaking of the rapid onset in some cases of myelitis, says, "such rapid onset resembles that of spinal hemorrhage in addition to inflammation," hemorrhagic myelitis. "Such cases are, however, sufficiently rare as not to interfere with the diagnostic rule that a sudden onset means a vascular lesion, and that the characteristic onset of myelitis is rapid, not sudden." Further on in his review of the subject, he again asserts that "hemorrhagic myelitis is scarcely a special form, since any acute inflammation of the cord may be attended by a sudden extravasation of blood." Lloyd, under the caption of "Diseases of the Spinal Cord" in Dercum's "Nervous Diseases," by American authors, says: "The recent medical literature contains the records of some striking and characteristic instances, confirmed by autopsy, of true hemorrhage within the substance of the cord, so that it is no longer reasonable, on a priori grounds, that such hemorrhage can not occur, and that myelitis has been mistaken in all such cases for hemorrhage. The reverse is more likely to be true, especially in traumatic cases, in which the so-called myelitis is probably a necrotic softening, having as its initial lesion a blood clot in minute capillary hemorrhages. It has been assumed almost universally that, for some mysterious reason, the spinal cord is exempt from these accidents in the vascular system, such as embolism, thrombosis and hemorrhage that play such a conspicuous part in cerebral pathology. This assumption has always appeared to the writer to be entirely unwarranted. The explanation for it, that is to say, that the long course of the spinal vessels relieves them from the effects of undue blood pressure, seems to be not in accord with sound hydrodynamics, and the claim that capillary aneurisms are never found below the oblongata, at least needs confirmation."

Dr. Joseph Collins, in the *New York Medical Record* of May 27, 1895, says: "Our ideas concerning the causation of myelitis have, within the past few years, undergone a great change. Formerly the occurrence of acute myelitis was largely attributed to cold and dampness, to strains, excesses, fright and to trauma, but today there are not a few who refuse to believe that these factors can stand as the individual causation of acute myelitis. It is not consistent with our knowledge of exudative and destructive inflammation in other parts of the body, in the light of the progress of bacteriology to believe that exposure to cold can set up an acute destruction, inflammation of the spinal cord involving no greater geographical area than the breadth of the

finger. In the vast proportion of the cases, if not in all, there must be some infectious or toxic element. This infectious element is the pathogenic germ or the toxic substance manufactured by such germ which attacks directly the spinal cord."

It is not illogical to assume that an explanation of the unusual occurrence and causation of myelitis can be justly and reasonably explained upon the germ theory of disease. No cause can be *per se* individual and unaided. Thus, Senn says, "it still remains a disputed question whether pathogenic micro organisms can exist in the body without giving rise to disease. It has been definitely ascertained by experimental research that many of the pathogenic microbes are harmless, as they remain in the circulating blood, and that their specific pathogenic action becomes evident only after localization has taken place in some part of the body, in a soil prepared, by injury or disease, for their reproduction. It has also been conclusively shown by clinical experience that pathogenic spores may remain in the healthy body in a dormant condition for an indefinite period of time, until by some accidental pathological change, the tissue in which they may exist has been prepared for their germination. Numerous experiments will be cited elsewhere, in which injections of pure cultures directly into the circulation produce no ill effects in healthy animals, but when, previous to the injection, or soon after an injury was inflicted in some part of the body, localization at the seat of trauma, and in the locus minoris resistentiæ thus created, the microbes produced their specific pathogenic effect. From these facts it is reasonable to assume that pathogenic microbes may, and do exist in the healthy body without necessarily giving rise to disease, especially if, as is well known, they are being constantly eliminated through the excretory organs."

It is a well-established fact that the Klebe Loeffler bacillus may be found upon mucous membrane without producing diptheria, a nidus seeming to be necessary for its production. Again, the bacillus of tuberculosis can exist in man without producing tuberculosis. A long series of bacteriological anomalies seem plainly to indicate the dormancy of microbic forms in the human being.

It is a well established fact that gun-shot wounds now and then manifest remarkable lesions. A bullet may strike the spinal column and lodge in its vicinity, to be immediately followed by as complete paraplegia as if the cord had been cut in twain, yet, the spinal column may not present evidences of the injury, while the cord may be thoroughly softened by this conclusive force. Eakridge reports a case of traumatic myelitis in a patient who was shot at the level of the ninth dorsal vertebra, the patient at once became paraplegic. An operation was performed in consequence of injury, and there were no signs of the ball or its track. Upon autopsy, two months later, when the dura was opened, a thick layer of yellow pus was found surrounding the pia mater and cord. The cord had been destroyed for nearly half an inch. Leyden

also draws attention to the fact that in traumatic myelitis there is not necessarily direct injury to the spinal cord, but that it may be the result of commotion or concussion. Lejars, of Paris, classifies concussion injuries into grave and incurable. Throburn, both in post mortem study and in the operating theatre, has demonstrated that in cases of injury to the cervical region of the spinal cord, recoil from injury is far more frequent than persistent displacement, and that their relative proportion is as two to one. He further claims that in injuries of the spine and spinal cord, in which a crush is followed by a recoil of the vertebræ, cases general die. This certainly seems a just and legitimate conclusion, for Felizet, in his experiments with the human skull, demonstrated that when he filled a skull with paraffin and dropped it on the floor, that upon opening it no fracture was found, but at the point of impact the bone had been driven down upon the paraffin, flattening it, and that the bone had sprung back, without fracture to its original place. Thus, the extent of force affecting paraffin was indicated by the degree of the resulting impression. If we obtain recoil in brain injuries, it certainly is natural to infer that that they can be obtained in so flexible a portion of the spinal column as the cervical region. It has been thus far shown that in crushes arising from concussion of the spinal cord, either by concussive force of gun shot projectiles, or destructive compression, followed by recoil, are generally fatal, as repair in either instance, if the injury is in any way excessive, is impossible. There can be no doubt of the positive force of localized concussion, as a lesion producing factor. We believe that many traumatic cases explained away on a basis of vascular involvement readily come under the head of concussion, or co incident recoil. It is not our intention to either enter into or discuss injuries coming under the head of compound fractures, dislocations, punctured wounds, etc., not to take in the subject of hematorrhaxis, as we are dealing only with uncomplicated intra-medullary lesions of the cord.

[TO BE CONTINUED.]

Blastomycetes in Sarcomata.—Roncali (*Il Policlinico*) found in five sarcomata taken from different parts and different tissues parasitic forms analogous to those described by Sanfelice, and by the author in cases of ovarian adeno-carcinoma. These parasites (that is, those met with in sarcoma) react to specific staining reagents, and resist the action of acids and alkalis in the very same way as the blastomycetes found in adenocarcinoma. They may be intracellular, extracellular, and even (exceptionally) intranuclear; they multiply by budding; in the young state may be seen without membrane and with abundant chromatic protoplasm; they may be homogeneous or partly granular or degenerate, that is, wanting in protoplasm, or furnished with protoplasm so modified as to lose all property of staining with aniline dye.—*Brit. Med. Jour.*

MEDICAL REVIEW.

EDITORIALS

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PUBLISHED UNDER THE AUSPICES OF THE
MEDICAL REVIEW ASSOCIATION

BY O. H. DREYER.

YEARLY SUBSCRIPTION, \$3.50. SINGLE COPIES, 10 Cents.

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Secretaries of medical societies will confer a favor by keeping us informed of the dates of the meetings of their respective societies, and of officers elected.

Members of the profession who send us information of matters of general interest to our readers will be considered as doing them and us a favor, and we shall take pleasure in inserting the substance of such communications.

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Entered at the St. Louis Postoffice as Second-Class Matter.

Some Defects in the Requirements of the Missouri State Board of Health for the Matriculation of Medical Students and How They Can be Remedied.

Every physician who has at heart the best interests of the medical profession, as well as those of the general public, admits that the reform movements with regard to medical education which have been inaugurated with more or less success throughout most of the States of this country are timely and absolutely necessary. This is admitted by the older medical colleges as well as by those of more recent origin, by those whose tuition fees are high and those who charge little or nothing for tuition. Everybody seems also to acknowledge the fact that if adequate and practical laws will not be enacted by all the States there will be no limit to the multiplication of medical colleges which, as is

also generally admitted, does not serve the best interest of the common weal.

* *

In a former editorial we have expressed our gratification over the resolutions adopted September 3, 1895, by the State Board of Health of Missouri with regard to the entrance requirements of medical colleges. Since then, however, an additional resolution has been passed and we have somewhat modified our opinion and view as to the efficacy of the resolutions in their present form and realize the fact that they are not quite so perfect, when carried into effect, as we and many other members of the medical profession had supposed and as, in theory, they appear to be.

We have been assured that the State Board of Health will be pleased to listen to any arguments and suggestions regarding the shortcomings of its provisions with reference to the regulation of medical education; and, moreover, as the editor of a journal which is published in the interest of the medical profession, it would be our duty, even without such assurance, to express our views without reserve and hesitation.

Recent publications of controversies in the daily papers, in which much animosity was displayed on either side, seem to prove that the manner in which the new law has been carried into effect does by no means tend to increase the brotherly feeling between some of the members of the profession and that it would be advisable to use more caution in the "application" of the law.

It appears to us, as an uninterested spectator, that a resolution passed October 28, 1895, by the State Board of Health has been the cause of all the recent trouble which has been given such marked publicity in several of the daily papers. The resolution we have reference to reads as follows:

"Resolved, That as a further condition of the recognition of any medical college as in good standing, the college shall furnish the Secretary of the State Board of Health on or before January 1 of each year a complete list of all its matriculants, together with the basis upon which each applicant matriculated, giving the name of the institution from which the degree or certificate of graduation was obtained, or the name of the State official conducting the examination, or the college previously attended, together with the date when the degree of certificate was issued. The list to be sworn to by the executive officer of the college, and attested by the Secretary under the seal of the college."

We fail to see the wisdom contained in some of the provisions of this resolution in the face of the fact that the resolution of September 3, 1895, bearing upon the conditions of admission to lecture courses of medical colleges, requires that the applicant must present a "diploma of graduation from a good literary and scientific college or high school, or a first-grade teachers' certificate."

We supposed that the Board of Health would provide for an impartial examination of the student's creden-

tials, by disinterested parties who were not to know what college the respective applicants intended to attend. Without such a provision the resolution will be ineffective and practically worthless.

Recent events have developed the fact that the resolution appears to have been misinterpreted by the colleges and, as a consequence, their respective secretaries have, inadvertently, it seems, matriculated students which had not furnished the necessary credentials required by the Board.

The gentlemen of the Missouri State Board of Health are, however, of a very active, live and energetic nature, and have promptly notified not only the college authorities, but also the students who had neglected to furnish evidence as to their qualification of entering a medical college in good standing according to the present law of the Missouri State Board. In consequence of this procedure of the Board, we have no doubt that the secretaries of the St. Louis colleges will in the future be careful not to matriculate students unless they can produce the proper credentials. It takes time for innovations of this character to become generally known and to be properly interpreted by everybody.

Much unnecessary trouble, vexation, censure, criticism and notoriety might have been avoided if the resolution contained a provision that the students must present their diplomas to disinterested persons appointed by the State Board, which persons, as we have pointed out, should not know at the time of the presentation of credentials, what medical college the applicant is going to attend. If the credentials were found to be satisfactory the candidate for the study of medicine should have been furnished, in our opinion, with a certificate, that he possesses the qualification necessary to begin the practice of medicine in this State.

The most eloquent proof for the correctness of this assertion has been supplied by the recent report of the State Board of Health in which all the regular St. Louis colleges had matriculated students who did not possess credentials fulfilling the requirements of the Board.

But even with this additional provision we find, upon close inquiry and logical deductions, that the requirements of the Board would still be open to just criticism, for the simple reason that an enormous difference is said to exist between one literary and scientific college and another and that, consequently, it is a somewhat complicated matter to satisfactorily arrive at a decision of what constitutes a "good literary and scientific college."

There are instances, moreover, where the sons of highly cultured parents did not attend any college for their literary and scientific education, but had private tutors to fill the place of such an institution. They possessed sufficient knowledge to enter an advanced class of one of our famous universities possessing much higher qualifications than those necessary to receive a diploma from some colleges.

To overcome the obstacles which present themselves in consequence of these circumstances we see no other

way of arriving at a just solution of the problem of a preliminary education entitling to the entrance of a medical college in good standing than by adopting a law which requires any applicant, irrespective of the method in which he has been instructed, to pass an examination before disinterested parties, and that the names of the applicants are not to be known to the examiners, by means, for instance, of supplying the manuscript of questions and answers with a number which serves for the identification of the applicant.

Considering that the State of New York has the advantage of experience with a law whose necessity is suggested in the foregoing lines and which, moreover, seems to enjoy the confidence of the whole medical profession, it may be advisable for our State Board to be guided, as far as practicable, by the provisions of that law; with the modification, pointed out in the foregoing paragraph, that questions and answers should be in writing and the examinations conducted by disinterested parties who, by means of having each manuscript of questions and answers provided with an identifying number, do not know, at the time of examination, the respective applicant whose qualifications are to be determined. This could easily be effected by setting apart one or more days, twice a year, for the purpose of examining candidates for admission to the study of medicine. A committee could distribute the questions to the candidates whom it supplies with numbered tickets—each applicant drawing his own ticket contained in a blank envelope. Each candidate should keep his ticket for identification and supply his manuscript, containing his questions and answers, with his number and, after placing the manuscript in a sealed envelope, hand it to one of the members of the committee. While the candidates are answering the questions they must be, of course, under proper supervision. After all the questions and answers have been gathered by the committee, they should be turned over to a board of examiners.

Questions like the foregoing should be liberally discussed by all physicians, for they are of much practical bearing to any individual member of the profession and every citizen. Our convictions we have tried to portray truly, objectively and impartially, and confidently expect that they will be accepted as emanating from the wish of adding our mite to the many suggestions made by able men from all parts of the United States.

Another question naturally presents itself, namely: What is to become of the resolutions passed by the State Board of Health when the present Board makes room for the one that will be appointed by the next Governor of Missouri? This question leads us to suggest that the State Legislature should take up this matter as soon as the medical profession has thoroughly discussed the same and until the present chaos of differences of opinion has been cleared up and crystallized into such a shape or form as will be acceptable to the physicians of this State.

Considering the comparatively short time which has passed since the new requirements of the Missouri State Board of Health has been in existence, we are not surprised at the number of students which some of the colleges have allowed to matriculate without an absolute guarantee of their qualifications. On the contrary, we would have expected a larger number from some colleges and are agreeably surprised at the great progress, which has been made in recent years in elevating the standard of preliminary education, entitling students to the entrance of any of the St. Louis medical colleges.

We have been greatly surprised at the grievances, connected with this matter, of a few members of the medical profession who have been interviewed by inquisitive reporters; but as we are aware of the extravagant exaggeration of the newspapers, we have paid but little attention to them. In our opinion it would be better, as we have stated on former occasions, that doctors should bring their grievances before the respective medical societies and avoid, as much as possible, newspaper notoriety. The public appears to have an idea that doctors are constantly fighting each other; for this idea the newspapers are to a large extent responsible as a consequence of their constant exaggerations. If grievances in the medical profession must be submitted to a tribunal of persons, who are qualified to form the most intelligent opinion, such persons are most readily found among their own colleagues.

The laity is unable to judge these matters in all their—often complicated—bearings. Our advice, therefore, is, that any grievances should be published in reputable medical journals of good standing and their publication in the daily press should be cautiously avoided.

Of course, there are instances where some information can not be refused, without placing oneself in an unenviable position.

In spite of all the newspaper talk the outlook appears to be that all the medical colleges of St. Louis are constantly improving and appear to be willing to sacrifice personal interests for the benefit of the common weal. After the present resolutions have been amended, changed or perfected, and incorporated into a permanent State law the profession in its entirety, as well as the individual colleges that are doing good work, can only profit by the exaction of a high standard of education before students are allowed to begin the study of medicine.

Three Kansas City Medical Colleges Outlawed.

Three medical colleges in Kansas City have refused to comply with the requirements of the Missouri State Board of Health and have consequently been stricken from the list of colleges in good standing; which implies, that their diplomas will not be recognized by the State Board of Health and that their students will be refused licenses to practice medicine in the State of Missouri.

BOOK REVIEWS

Books reviewed in this column may be obtained, post-paid, by addressing the publisher of this journal, and remitting the quoted price.

Saunders's American Year Book of Medicine and Surgery. Collected and arranged by Eminent American Specialists and Teachers, under the Editorial Charge of GEORGE M. GOULD, M.D. In One Royal 8vo. volume of about 1000 pages, uniform in size with the "American Text-Book" series. Profusely illustrated 1896. Price, Cloth, \$6 50, net; Half Morocco, \$7.50, net. Sold by subscription. Philadelphia: W. B. Saunders.

As a work whose mission it is to present, in a condensed form, whatever is new in medicine and of value to the practicing physician this year-book fills its place most admirably. The contributors to the work are names who guarantee a thorough review of the current medical literature. The editor of the book, Dr. Geo. M. Gould, is pre eminently fitted by his experience to do justice to a work which is to portray correctly and conscientiously the recent achievements in medicine, which have a practical bearing upon the duties of the practitioner and which keep him abreast, without much loss of time or energy, with all that is essential and of importance in his line of work. The undertaking is a most commendable one and we can recommend the work to every practitioner and student as a book whose value is unsurpassed by any other work of its kind. The abundant illustrations are elegant, clear and practical. The print and binding are faultless.

TRANSLATIONS.

BY EDGAR THOMPSON, M.D.

Rectal Alimentation.—There are two general conditions in which rectal alimentation is absolutely indicated (*Wiener Wochenschr.; Cephblt. f. Therapie*):

1. The impossibility of food ingestion, or failure of absorption in the upper part of the intestinal tract.
2. When the introduction of food by the mouth is attended with serious dangers.

In the first group belong the anatomical and digestive changes which occur in the following conditions:

(1) In acute or chronic stenosis of the esophagus or pylorus. In the latter the stomach will rapidly dilate and rectal feeding must be permanent.

(2) In cases of paralysis of the muscles of deglutition the food will have to be introduced in the rectum or through the esophageal tube.

(3) In a continuous spasm of the throat muscles, as in tetanus, hysteria, hydrophobia, etc.

(4) During the first days after operations about the throat, etc., the rectal alimentation must be instituted.

In certain cases of persistent vomiting, especially if it is due to brain tumors, functional nervous diseases, hysteria, hyperemesis gravidarum, chronic nephritis, the substitution of rectal for oral feeding often gives the best results. The author has given great relief by rectal alimentation in cases of phthisis in which the violent attacks of coughing induced vomiting and nausea. Tuberculosis of the larynx with destruction of the epiglottis, and malignant diseases of the vocal cords demand rectal feeding.

In ulcer of the stomach absolute rest of the organ is the only successful treatment. This prevents hemorrhage which is occasioned by the movements of digestion, and it also permits the ulcer to cicatrize. In acute inflammations of the stomach with softening of its walls and danger of rupture it should be spared all digestive functions.

In chronic dilatation of the stomach an occasional ten days' course of rectal alimentation will give most pleasing results and will give the stomach an opportunity to recuperate. Such a course will be followed by weeks of perfect digestion, gain in weight, and other favorable signs.

In atonic dilatation, without pyloric stenosis, feeding by enema frequently yields remarkable results. The dilatation will be greatly diminished, the muscular activity of the stomach walls will be renewed, the secretions will return to the normal standard and permanent good will be accomplished.

In many cases of nausea which resist local treatment a short rest of the stomach will effect a cure.

In dilatation of the stomach from a malignant stenosis of the pylorus rectal alimentation is only a palliative treatment. The condition of the patient improves temporarily, but the malignant progress is soon re-established.

The author is of the opinion that life can be maintained, for an indefinite period, by rectal alimentation. Thirst is at first a troublesome symptom but this disappears after the rectal feeding is established.

The absorptive property of the mucous membrane of the great intestine varies greatly in different individuals. It is much greater in some than in others.

A good indication of the success of the rectal feeding is found in the amount of urine excreted. If the diuresis is great it signifies that absorption by the rectum is active. If the amount of urine is diminished it is a sign that absorption is insufficient.

Before administering a nutrient enema the rectum should be irrigated. A long soft rectal tube should be used with a limited amount of pressure.

Sometimes the patient will experience a sense of hunger due to a vacuity in the stomach. This symptom is best met by allowing the patient to swallow minute doses of cocaine or opium.

One nutrient enema should have the following ingredients: 10 ozs. milk, two or three egg yolks, two teaspoonfuls wine and a few grains of salt. It is a wise plan to add 5 to 10 drops of tr. opii until the rectum becomes accustomed to the procedure. The enemas can be given four times daily. After the enema the patient should remain in a quiet recumbent position.

Antisepsis.—According to Dr. Pouchet (*Le Progrès Médicale*) there is as yet no satisfactory definition of antisepsis. It can not be said that antiseptic agents destroy infectious micro-organisms and in so doing fulfill completely their mission. The destruction of the germs is only a part of the problem and there is well founded doubts as to the practicability of local antisepsis for the reason that most all the micro-organisms and especially their spores are more resistant than the tissues of the infected organism, consequently successful antisepsis would involve destruction of the latter.

The question is an extensive one. The morphology of bacteria, the study of their respective virulence, of their secretions, of the tissue changes which they produce of the theories of vaccination and immunity are all indispensable to a correct conception of the subject in hand.

The progress of bacteriology has been very great, dating from 1854 when Schroeder discovered that air which had been filtered through cotton lost its power to cause putrefaction. The study became a science when Pasteur completed his researches on fermentation. The demonstration of the active part taken by the products of bacterial growth, the toxins and ptomaines was a great advance.

The authors' definition of infection is that it is a train of symptoms and characteristic lesions produced in each contagion by the toxins, formed in growth of the specific germs. For this infection two factors are necessary, viz, the infecting germs and the infected body. The modification of one or both of these factors in such a way as to limit the success of the infection seems to be the most promising idea.

The following are the prophylactic and therapeutic methods of combating infection:

1. The attenuation of the virus. Vaccination logically is included here.
2. The total destruction of the germs. This is impossible after the micro-organisms have gained an entrance.
3. The modification of the germs.
4. Modification of the medium in which the germs grow and multiply.
5. Changing the receptivity of the organism, i. e., rendering the tissues unfavorable to the development of the germs.

The attenuation of the virus involves the isolation of the virulent element; its progressive attenuation and inoculation of this weakened virus which causes a benign form of the disease and confers a certain immunity.

There is one great and unsurmountable difficulty in

practical antisepsis. In fact that all the agents intended for the destruction of the germs at the same time profoundly injure the cells of the organism in which the germs have found a foothold. There are a host of things which will destroy micro-organisms. Thus the author mentions sulphurous acid as a perfect antiseptic, acting chemically on life wherever found. It is impossible to apply this acid directly, but in the sulphites we have the means of obtaining the effect of the former in a harmless manner.

They act by reason of their affinity for oxygen. It is a chemical reduction. The author refers to the numerous experiments of Polli who found that dogs which had been saturated with sodium sulphite would suffer no inconvenience after inoculation with virulent pus in large amounts.

A long series of experiments were made with the various pathogenic germs and in every instance the sulphite treatment prevented an infection or limited its extension. The probable action of the sulphite is by the neutralization of the toxins and ferments.

MEDICAL SOCIETIES

PROCEEDINGS OF THE ST. LOUIS MEDICAL SOCIETY.

W. H. FUCHS, M.D., EDITOR.

Stated meeting, Saturday evening, November 30, 1895. The President, F. D. MOONEY, M.D., in the chair.

* *

DR. FINLEY presented a specimen of

Extra Uterine Gestation

in which the ovum was attached to the fimbriated extremity of the tube. There was no rupture of the tube and all hemorrhage occurred into the peritoneal cavity. The patient was operated on last Tuesday and is now practically well.

* *

DR. WARREN B. OUTTEN presented a paper (see page 55) on

Primary Hematomyelia, Non-Traumatic and Traumatic.

DR. W. KEATING BAUDUY, in his experience, had seen only one case of what seemed to be true hematomyelia, and the diagnosis was not confirmed post-mortem.

There is a great diversity of opinion on this subject among our eminent American neurologists. The consensus of opinion, however, would lead to three conclusions: 1. That it is a rare affection; 2. that primary hematomyelia is more rare than the secondary type; and

3. that the prognosis is very unfavorable, or that the patient recovers only to a degree.

Speaker took exception with the essayist in the adoption of the teachings of Charcot and Hayem. Charcot taught that primary hematomyelia, in all probability, does not exist, and, furthermore, that it is an epiphenomenon of myelitis. Charcot has had a large following in this position, among whom is Hayem, who elaborated upon these views. From a number of cases collected by him up to 1871, he came to the conclusion that there is no such condition as primary uncomplicated hematomyelia. Lloyd, in refutation of the views of Charcot and Hayem, offers the argument that at that time every transverse softening was relegated to an acute transverse myelitis. In substantiation of his conclusions he states that at that time all softened conditions were supposed to be due to inflammatory processes; but more recent microscopical pathology restricts the causes of inflammation to direct infection. He believes that the acute myelitis is due to non-inflammatory vascular changes. Instead of attributing the hemorrhage to a pre-existing myelitis, the reverse seems to be the case, namely, that the myelitis was excited by what was originally primary hematomyelia.

Speaker also differs with Dr. Outten when he relegates primary hematomyelia to the medical domain. The fact that we are not able to discover a lesion, to account for the occurrence of the hemorrhage, does not preclude its possible existence; our facilities for examination or our knowledge may be deficient. Speaker believed that all non-traumatic cases are secondary to some pre-existing degenerative process. Although Charcot and Gowers deny the existence of arterial sclerosis of the brain and spinal cord, other authors give it as an etiological factor in hematomyelia.

Whilst medical cases are usually of a secondary character, true, uncomplicated, unpre-disposed, primary hematomyelia is usually brought about by trauma. Although speaker's position is merely suppositious, and, although the essayist has had a very extensive experience in traumatic cases, and had never found one of primary traumatic hematomyelia, that does not preclude the possibility of their existence.

DR. OUTTEN.—Has anybody else ever met with a case?

DR. BAUDUY answered that Lloyd and Gowers had, and cited the celebrated case of Sharkey, mentioned by the essayist himself. This boy had several falls on the ice while skating, and a few hours or days after pain in the back and paralysis supervened. A post-mortem showed a spinal hemorrhage surrounded by an area of softening. Speaker always has considered this a case of primary traumatic hematomyelia. Gowers and Lloyd call attention to the fact that symptoms of hematomyelia need not necessarily develop immediately after reception of the injury.

DR. CHARLES G. CHADDOCK complimented the essayist for his very thorough and extensive examination into the subject, and the manner in which he pointed out the

uncertain elements in connection with the subject, but said that we must not allow an investigation of this kind to prejudice us too much in the examination in any single case, because the proof of one instance of hemorrhage into the cord is sufficient to overcome the weight of any argument of this kind. Of course, the proof must be forthcoming and can be obtained only at the post-mortem, and then only after a very careful examination. Often what appears on the surface as spontaneous or primary hemorrhage, may have taken place subsequent to a condition of softening, or some other cause. Notwithstanding our uncertainty and all the contrary testimony in this matter, every case is entitled to its own weight.

DR. A. B. SHAW was inclined to indorse the position of Dr. Outten, and in turn that of Charcot and Hayem, that the majority of cases of primary hematomyelia are of medical character. He did not like to take the position that in cases where trauma plays no part—and by trauma is meant violence—they are necessarily primary in the sense that no condition existed, or could be found, prior to the hemorrhage which might have led up to its occurrence. For instance, we speak, and very properly so, of primary hemorrhage into the brain where we have primarily a capillary aneurism. In the same sense we may speak of a primary hematomyelia where no softening of the cord had pre-existed. Of course, authorities differ on this point, and the difference of opinion exists because of an insufficiency of experience in each individual man's career, because cases are found upon careful examination and analysis to be extremely faulty in their symptomatology as reported, and because of the infrequency of autopsies.

Personally, speaker was inclined to his view on account of the peculiar anatomical arrangement of the arterial blood supply of the part. The spinal arteries enter the canal at the various intervertebral foramina and form a common trunk, which is of uniform size throughout the entire length of the canal and in which an equable pressure of the blood current is maintained. The branches pass directly through the pia mater, and the anterior branches send off innumerable smaller ones which pass into the substance of the cord through the anterior median fissure and supply the gray matter, in which most of the hemorrhages occur.

In addition to this arterial distribution, by which the vessels are protected from direct violence, the cord is suspended within the canal by ligamentous tendons in such a manner that any individual portion of the cord readily adapts itself to the changes of position ordinarily assumed by any individual. Any motion which lies within the province of the normal mobility of the spinal column may be made without injuring the contents of the canal. Of course, the moment the limits of motion are exceeded we are liable to have a fracture, dislocation, or a recoil, and from such a cause, as from an incision, we may have a disturbance of the integrity of the vessels, although, here, again, the peculiar mode

of the arterial distribution lessens the danger in such accidents.

DR. J. K. BAUDUY, in his personal experience, had had only one case of hematomyelia, and that was of traumatic origin, and was characterized by those symptoms usually presented in cases of this character; namely, abruptness of onset, great anguish and pain in the back, and rapidly developing paraplegia. The man, in trying to lift a heavy barrel, suddenly felt something give way in his back; he was seized with sudden, intense, violent pain, and there was a rapidly produced paraplegia. He lived, that was for about five or six weeks, and then died. The case was reported.

The question as to the rarity of the disease was mentioned by the essayist, and hardly requires further notice. It is unquestionably very rare. Gowers speaks of it in this manner, while Charcot goes so far as to state that there is good authority for doubting its existence. Dr. Kennan, of Chicago, is the only man who states that he had seen a number of cases—he reports having seen twenty, but speaker thought he must have been mistaken in the diagnosis in some.

The most important point under consideration is as to the existence of a primary form, or as to whether the trouble is always secondary. The most common etiological factor in traumatism. Since speaking to the essayist and looking up the literature on the subject, speaker had come to the conclusion that the trouble is not always secondary, but that the primary form is much more frequent than authorities will ordinarily admit. Charcot and Hayem are mistaken—probably it is the only mistake that Charcot ever made in his life—when they say that it is due secondarily to myelitis, and is never primary. Many authorities support the idea of a primary form, and there are certain factors which might act in producing the condition. The peculiar condition found in bladders may be an underlying cause, as may the vaso-motor congestion superinduced by alcoholism, and, finally, an abnormal blood pressure in the cord might induce hemorrhage.

Cerebral hemorrhage is almost invariably the result of military aneurisms, which do not occur in the vessels of the spinal cord; at least, so Gowers and other authorities claim.

The diagnosis of hematomyelia ought not to present great difficulties. Although there are not many symptoms, they are salient and usually sufficient to differentiate it from other troubles. The suddenness of the onset, the great pain in the back, and the rapidly developing paraplegia are the principal ones. In hematomyelia there occur electrical reactions of degeneration, whereas there is no response to electrical stimulation in hemiplegia following cerebral hemorrhage, unless there be secondary hemorrhage into the cord. Then, in spinal hemorrhage we have a tendency to the development of bed sores and cystitis, both complications being absent in cerebral hemorrhage. Few persons die from the hematomyelia but succumb to the

septicemic infection caused by the bed sores and cystitis.

A sudden obstruction of the abdominal aorta might produce paraplegia so rapidly as to lead to a suspicion of hematomyelia, but the absence of pulsations in the femorals would be the point of differentiation. Suddenly, developing paraplegia in hysterical subjects may also be confounded with spinal hemorrhage, but the presence of hysterical stigmata and the absence of pain in the back will necessarily exclude the possibility of error in this direction.

DR. LUDWIG BREMER agreed with the position taken by the essayist. If this disease does exist it is very rare.

The case referred to by speaker in his report to Dr. Outten, was one of broken neck. The third or fourth cervical vertebra was not only broken, but dislocated also, and, of course, there was considerable contusion of the substance of the cord in addition to the hematomyelia.

Although he had made a great many post mortems, speaker had never seen an outspoken case of hematomyelia, with the exception of quite a number of cases which occurred at the time when the bridge was building, and which were known as cases of "Caisson Disease." This occurred in either 1869 or 1870, and speaker made a number of post-mortems at that time for the coroner, Dr. Spiegelhalter. The victims of caisson disease were brought to the hospital in an utterly paralyzed condition, sometimes it was hemiplegia but more frequently paraplegia. The patients usually lingered along two, three or four weeks and then died. At that time pathology in St. Louis was not very far advanced. Although he does not remember what statements he made before the juries, he remembers that the lower portion of the spinal cord was softened in cases which had lasted any length of time. Whether this softening was due to capillary hemorrhage or hemorrhage from the smaller arteries, he did not know.

Even now, in our advanced state of knowledge of the pathology of the nervous system, there is great doubt as to the initial lesion in caisson disease. Even such competent observers as Prof. Leyden, of Berlin, who has described one case, and Prof. Schultz, of Heidelberg, who has described another, with the advantage of a complete microscopical examination, state that there is considerable doubt as to whether there was a hemorrhage into the cord or not.

DR. ROBERT FUNKHOUSER could not see why primary hematomyelia should not occur. Although it would seem, from the answers received by the essayist, that there is considerable doubt on the subject, it is probably true that myelitis often occurs secondarily to the hemorrhage, instead of in the reverse order. It is also natural to suppose that hemophylics are just as liable to have hemorrhage into the spinal cord as elsewhere.

It would seem that considerable difficulty would be encountered in differentiating between hemorrhage into the membranes and hematomyelia. In the latter the

pain is very severe, and the spasms, usually occurring in meningeal hemorrhage, are absent. The fatal termination, depends, of course, on the degree of the hemorrhage and on the region in which it occurs, whether in the cervical, dorsal or lumbar regions.

Speaker had seen two cases of hemorrhage into the cord. In one case the patient sustained a spinal compression in passing underneath a platform. There was probably a laceration of the cord. In the other case a lady sat down very suddenly, a distance of 18 inches or two feet, and sustained a violent shock. The paralysis was instantaneous and it was first considered due to the shock, but it lasted a long time. There were no symptoms present indicating that there had been any disease preceding the injury.

DR. F. J. LUTZ failed to see how the subject could be considered from a surgical standpoint. In the first place the trouble is so rare that we do not have data sufficient to go upon in making a definite diagnosis. Secondly, even if the diagnosis had been definitely established, the trouble is inaccessible to the surgeon's skill. He thought Dr. Outten's paper would deal with hemorrhage upon the cord, into the tissues surrounding the cord, and this condition, especially when resulting from a fracture or dislocation of the spine, might be amenable to surgical measures, and therefore a topic for discussion by the surgeon.

DR. ELISHA H. GREGORY said, when receiving the note to participate in the discussion, that he was driven to the dictionary to determine what hematomyelia meant. He thought that we owe a debt of gratitude to Dr. Outten, because he has established, beyond a doubt, that nobody knows anything about the subject, and that there is no literature in the subject that is worthy of a moment's consideration.

The position taken by Dr. Bauduy, that paralysis occurring immediately after the injury is due to the hemorrhage, speaker considered untenable. Whenever we have hemorrhage as an essential factor from a surgical point of view, it is the result of so slight an injury to the structures in which the blood vessels are imbedded that the function of the vessels goes on until interfered with by the pressure from the outflowing blood. Whenever the injury is followed by an immediate overthrow of the function of the cord, that loss of function is due to the injury, relatively to which the hemorrhage is secondary. Such a thing as primary hemorrhage is impossible. All hemorrhage must result from some injury to the blood vessels, or from some morbid process in or about the vessel walls.

The paper is also instructive on the subject of inflammation, and this subject deserves the consideration given it by the author, since it is an eminently practical one. But he speaks of traumatic inflammation spreading. It can never extend its limits, but must necessarily confine itself to the site of the injury. A traumatic inflammation is never attended by softening; whenever this occurs it is due to some other agency. Traumatic inflammation is absolutely plastic, and where inflammation is

plastic it is the result of some other cause than the traumatism.

DR. A. MINK, upon motion of Dr. Bauduy, was invited to discuss the subject.

He said he was a comparatively new comer in this "village," having come from the "effete" East to settle in the "wild and woolly" West, but if New York, Boston or Philadelphia believed they are the only ones who have erudition they are very much mistaken. He had never heard a more admirable and exhaustive paper than that read by Dr. Outten.

After all, Dr. Gregory is about right, for, after taking into consideration the pros and cons of the subject, we really know but very little about hemorrhage into the substance of the spinal cord. He could not see why we should not have miliary aneurisms, or degeneration, of the arteries that supply the gray matter of the spinal cord, just as we have of the vessels of the base of the brain.

As regards the cases of bleeders, Oppenheim, in his late text-book on nervous diseases, mentions the case of a man who had indications of successive hemorrhages into the spinal cord.

Speaker differed with some of the gentlemen in the matter of diagnosing the trouble. It is not the hardest matter in the world, no more so than is a hemorrhage into the brain. Erb is probably right in saying that it occurs more frequently than most practitioners will admit.

Speaker's experience was limited to two cases. The first was that of a little girl who fell from a hay rack while playing, and was seized with symptoms that we usually ascribe to hemorrhage into the substance of the spinal cord. She recovered only partially, and two or three years after the injury there was only an atrophy of the muscles and a greater or less degree of paraplegia.

In the second case speaker did not make the diagnosis but made a post mortem. This man had fallen out of bed three days before, and a hemorrhage, about the size of a hazel nut, was found in the spinal cord.

DR. OUTTEN announced that he would answer the speakers at the next meeting.

The Aluminum Corset.—Dr. Phelps, of New York City, recently addressed the Academy of Medicine on the merits of the various materials used in spinal disease. In lateral curvature, the jacket of aluminum was, so far as he had tested it, freer from objections than the others, but it was somewhat expensive, costing fifty dollars or more. A plaster corset was first made, the patient being suspended; this was filled with plaster, and over the latter the aluminum corset was hammered into shape. It had numerous perforations smaller than a dime. The weight of the apparatus is about two pounds. If the patient changed much in shape and size it would be necessary to make a new corset.

ABSTRACTS

MEDICINE.

Vascular Neuroses.—Functional and reflex vaso-motor disturbances of the peripheral circulation are very complex phenomena. According to Dr. McGillicuddy (*Amer. Jour. Obstet.*), they may be local or general; external as in a morbid blush and internal as in globus hystericus.

Morbid blushing is a common local vascular neuroses, extreme redness of the nose and cheeks, burnings of palms of the hands, sweating—which is generally unilateral or limited to the hands or feet—and absence of sweat all belong in the same category.

The phenomena are due to either a contraction or dilatation of the small blood vessels induced by the transmission of irritations from the ganglionic system governing the circulation. Pallor or flushings will occur according to the character of the nerve influence. The conditions are sometimes genuine psychoses for they seem to be entirely dependant on mental states.

General neuroses are the neurotic and hysterical fevers and chills. In several cases of nervous fever the temperature has registered 110°. Febrile conditions which simulate malarial fevers are occasioned by cerebral, abdominal or pelvic reflexes. The author is of the opinion that chronic gastro-intestinal inflammation lowers the tone of the nervous system more than anything else. The flushed face, red nose, etc., are most always gastric reflexes, and the condition sometimes becomes a mortifying affliction. Coldness of the skin and extremities is a very common reflex gastric neurosis. Sometimes the neurosis becomes chronic and exists as rosacea and urticaria.

Extreme flushing is a vaso motor paralysis. Sometimes the upper portion of the body is constantly flushed while the extremities will be permanently cold. Vaso-motor paralysis causing a burning sensation at the vertex and occiput is a common symptom of pelvic diseases. Left-sided numbness and coldness is frequently associated with chronic gastritis.

Hemicrania may be due to a spasm of the arteries, or to the opposite condition of paralysis; sometimes the conditions alternate. These cold and hot sensations are often observed at the menopause.

A beautiful example of reflex vaso-motor neuroses is seen in the numbness and tingling of the left arm during attacks of angina pectoris.

A want of tone of the vessels is a frequent cause of morbid vascular changes. This is frequently the case in neuralgic headaches which may be either congestive or anemic. The changer of the caliber of the vessels is, no doubt, the same in the cerebral circulation as on the surface. The intra-cranial blood pressure is, to a

certain degree, influenced by the sympathetic system.

Self consciousness is a prominent exciting cause of blushings. Persons with great mobility, or of a nervous temperament blush under a fleeting glance of a stranger. The young blush much more easily than the old because the natural sensitiveness has not been blunted by social contact.

The face blushes more than any other part of the body because of its greater vascularity and greater sympathetic nerve supply. Probably the self attention directed to the face makes it abnormally responsive. The author states that among nations where other parts of the body are exposed to view blushing is more extensive. Blondes have a tendency to blush more than brunettes. The author notes a case of a telephone clerk who invariably blushed when conversing over the wire. It is said that lawyers never blush. Darwin records a case where mother and child blushed in exactly the same way.

Palpitation of the heart very often precedes an act of blushing. Both are parts of the nervous state. In some types of blushing there is a certain amount of mental confusion. This class of persons rarely look one in the face, and only bestow a fleeting glance.

The main cause of the vascular neuroses appears to be faulty digestion and anemia, consequently a dietetic and hygienic treatment is most rational. Where self-consciousness is marked habits of solitude and self-communing should be discouraged. All articles of diet, which common sense condemns, must not be eaten or drunk. Baths are beneficial. A change of climate is frequently of great service. A daily application of a mild galvanic current is of considerable advantage.

Camphor, quinine, iron and turpentine are the drugs which can be recommended. The conditions of indigestion, mal assimilation and secondary anemia are the main sources of the trouble and to these pathological states successful treatment must be directed.—EDGAR THOMPSON, M.D.

Serum Treatment of Cancer.—At a recent meeting of the Academie des Sciences (*Arch. gen. de Med.*), Richet and Hericourt presented a further report on the treatment of cancer by serum. Since their first communication on the subject (see *Epitome*, June 1, 1895, par. 426) they had been able to study the effects of the treatment in a much larger number of cases. Their own observations, together with those communicated to them by Reclus, Pinard; Terrier, Faure, Hallopeau, Tuffier and others, amounting altogether to about 50 cases, led them to the following conclusions: (1) A very marked diminution of pain follows the injections; this effect had not been expected. (2) Cancerous ulcers become clean and assume the aspect of granulating sores, and may even heal over a fairly large extent of surface. (3) Marked shrinkage takes place not only in the neighboring tissues and related glands, but in the growth itself. In some cases the development of the disease is checked and the general condition is distinctly

improved. To sum up: In four fifths of the cases a real improvement is beyond question but a complete cure is not brought about. After a month or two new cancerous foci appear, and the disease goes on and ends in death. Is the serum specific or not? The authors find it difficult to give a definite answer to this question. The results seen in two cases, however, make them incline to the belief that the serum of immunized animals is much more active than that of healthy ones. In two cases also the serum seemed to have some effect in preventing recurrence, and they suggest to surgeons a trial of a combination of this treatment with the usual operative measures.—*Brit. Med. Jour.*

Congenital Cystic Kidney.—Mutach (*Virchow's Archiv.*), discusses the causation of congenital cystic kidney; basing his views on two cases studied by a consecutive series of microscopic sections. The retention theory is the one most generally accepted, but the cause of the obstruction, which is generally localized to the papillæ of the pyramids, is in dispute. While Virchow holds the atresia of the tubules to be due to interstitial inflammation, others hold that it is due to congenital malformation; the frequent association of congenital defects in other parts of the body supporting the latter view. In one of the cases under consideration, there was atresia of the urethra with dilated ureter and pelvis, and cystic kidney on both sides; in the other there was atresia of both ureters with cystic kidneys. The cysts were found to be dilations of the capsules of the glomeruli just beneath the capsule of the kidney. The epithelium of the tubules was very slightly altered; there was marked increase of interstitial connective tissue, but it was particularly observed that this was not of the closely packed inflammatory type, but of the loose embryonic type; moreover the tubules were pervious throughout their course, from the glomeruli to the pelvis. In the development of the kidney the glomeruli appear first just under the capsule, being covered in turn by another row which appears superficial to them; so that the deeper layers of glomeruli are fully formed, while the superficial ones are still imperfectly developed. It is obvious that no urinary pressure can arise until some of the glomeruli are completed, and so secretion established; thus the deeper glomeruli will at no time be subject to backward pressure till they are fully developed, whereas the superficial ones will be exposed to such pressure while they are still in process of development. It is suggested that although the obstructive conditions giving rise to hydromephrosis never cause dilation of the tubules in the fully developed kidney, they may do so in the still developing kidney.—*Brit. Med. Jour.*

Iron as Food and Drug.—Stockman has made some fresh estimations of the amount of iron in various ordinary diets (*Jour. of Phys.*) He found that the quantity of iron in the ordinary daily diet of healthy persons with good appetite averaged from 8 to 10 or 11

mg. a day (about $\frac{1}{4}$ gr.). The convalescent diet of the Edinburgh Royal Infirmary, a sufficient maintenance for persons leading a somewhat inactive life, contained 6 mg. a day. In the diet of a young lady living in the ordinary way and taking an average amount of food, 8 mg. was found in the daily diet, while in that of two chlorotic girls who ate very little, the quantity of iron averaged 2.6 mg. a day (four estimations). From a consideration of the amount of iron in ordinary diets, Stockman is led to observe that the iron metabolism of the body must be small. Very little can be excreted, and the great bulk must be retained in the body and used over and over again. The total excreted daily by all channels is, he concludes, less than 6 mg. a day. When the red blood corpuscles break down, although their pigment is to a large extent excreted in the urine and bile, a large part of their iron must be retained in the liver and spleen, where it is gradually used for the formation of new red corpuscles.—Quinke observed at the last German Medical Congress (*Verhandlungen*, 13th Congress, p. 167) that the amount of iron in the preparations in ordinary use was often forgotten, and he gives a table showing the percentage of iron in a large number of German official and unofficial preparations. Thus the citrate of iron and ammonia contains 1 gr. of iron in 6 gr. of the salt. The liquor ferri perchloridi of the *British Pharmacopeia* contains 1 gr. in $\mathfrak{M}$ xx. When it is desired to promote the absorption of iron, Quinke considers it important that the iron preparation chosen should be in a very diluted solution when it comes in contact with the gastric mucous membrane; this end may be attained either by giving the drug with food or freely diluted. He recommended the administration of iron by subcutaneous injection in cases of anemia in which gastralgia or other gastric or intestinal disturbance placed difficulties in the way of the administration of most iron preparations by the mouth. He uses a 5 per cent solution of citrate of iron; it produces very little local reaction and is quickly absorbed. He gives in this way from $\frac{3}{4}$ to $1\frac{1}{2}$ gr. daily ($\mathfrak{M}$ xv to xxx). Liquor ferri peptonati (Denayer) is also very little irritating when injected hypodermically, and is of about the same strength in iron as the 5 per cent solution of the citrate. The ammonio citrate should not be used as it is very much more irritating than the citrate.—*Brit. Med. Jour.*

The Conditions Regulating the Production of Poison in Diphtheritic Cultivations.—Spronck (*Annales de l'Institut Pasteur*), has investigated the causes of the well-known differences in the amounts of toxin produced by diphtheria bacilli grown under apparently precisely the same conditions. Owing to want of space he was not able to grow the bacilli in thin layers of bouillon, but was compelled to use cylindrical vessels with straight necks plugged with wadding. The layer of bouillon was 4 inches deep; it was prepared from veal or beef, alkalized with sodium carbonate, and peptonized with 2 per cent of White's

peptone. In the series of experiments all the conditions were identical except for the differences in the bouillon which will be mentioned. The course of development of the culture can be classified under three types: (1) Acidity soon appeared, persisting for weeks or months. The liquid became clear, the bacilli dying and sinking to the bottom. When this had occurred the toxicity became and remained extremely feeble. (2) The bouillon never became acid, but remained turbid, with a thick deposit at the bottom and a whitish scum on the surface. After a while the alkalinity gradually increased, and the toxicity at the end of two or three weeks was extremely powerful. (3) After a few days the bouillon became acid and clearer; in a short time more the alkalinity and turbidity returned, and toxic properties developed to a considerable extent, though not so great as in (2). These differences depend upon the freshness of the meat from which the bouillon is prepared; the toxicity varies inversely with the amount of glucose present, and directly with the length of time which the meat has been kept before cooking. Thus perfectly fresh beef (veal being still less good, and horseflesh, according to Smirnow, yielding almost no toxin under any circumstances) approaches the first type, while meat which has been kept till the inception of decomposition is of the second, the third being intermediate. This has been confirmed by using different portions of the same joint, which by alterations in the time of keeping could be made to furnish varying amounts of toxin. Furthermore, addition of glucose was found to inhibit the toxicity of the products of diphtheritic growth even in bouillon made from quite stale meat. Spronck therefore suggests that the most convenient method of obtaining strong toxin is to eliminate the glucose in the meat by keeping it till decomposition commences before making it into bouillon. He further considers that it is not yet certain that the artificial aeration method of Roux and Yersin is in all cases necessary, or indeed advisable, when a material of powerfully toxic properties is required.—*Brit. Med. Jour.*

Gonorrheal Pleurisy.—Faitout (*Arch. gen de Med*), first refers to the cases reported previous to 1878, when Talamon denied the existence of any conclusive example of this disease. He then mentions the case of Cornil and Klippel, in which a young woman with gonorrhea had a pleural effusion. At the necropsy besides the effusion there was pus in the Fallopian tubes, but no micro-organisms were demonstrated in it. The connection between the two diseases was open to some doubt in this case. In Baisle's case there was gonorrheal rheumatism as well as evidence of a pericarditis and a dry pleurisy. In Ducrey's case a young man was seized with fever a few days after acquiring a gonorrhea. First a right then a left pleurisy developed, later the knee- and thumb-joints were involved, and eventually the peritoneum was implicated. The effusion rapidly disappeared. In MacDonnel's case a young

man had an acute gonorrhea some four months previously. He had a further attack four weeks before his present illness. After exposure to cold he had pains in the knees, thumb, etc., and a double friction sound was heard over the base of the heart. Later he had an effusion into both pleural cavities. The patient made a good recovery. MacDonnel believes this to be an example of a gonorrheal affection of the serous membranes, because (1) there had been no previous rheumatic manifestations; (2) the temperature was only raised at the onset of the cardiac and pleuritic symptoms; (3) the articulations were but slightly affected, and (4) there was no sweating. The case of Mazza is more convincing. A girl, aged 11, had been raped by a man suffering from gonorrhea. A few days later she had a polyarthrititis and a double pleurisy. It is said that there was also evidence of an endo pericarditis. Mazza found the gonococcus, both morphologically and by culture, in the pleuritic fluid. The author lastly discusses how the gonococcus could get to the pleura. It must be assumed that it is carried by the blood, as its presence there has now been demonstrated by several reliable observers. The investigations are too few to determine whether the effusion is always due to the gonococcus itself or to secondary infections, or whether even the gonococcus toxins play any part in producing the complications.—*Brit. Med. Jour.*

Observations upon Acetonuria and Coma Diabeticum.—The result of these observations may be stated as follows: F. Hirschfeld (*Zeitschrift f. klin. Med.*)

In every healthy individual from whose food all carbohydrates are withheld, an increased excretion of acetone through the urine occurs, which continues to rise until the seventh or eighth day, then, except for slight variations, remains at uniform height.

The amount of acetone excreted daily amounts to 200 to 700 mg.

In high acetone excretion—i. e., when about 0.3 gme. of acetone per liter, or sufficient aceto-acetic acid to yield this amount on distillation is present—Gerhardt's chloride of iron reaction takes place.

In rich proteid diet the acetonuria is less than in moderate proteid diet. Whether the requirements of nutrition are met by a liberal supply of fat or not, the amount of acetone discharged with the urine remains uninfluenced. Aceton excretion is therefore not dependent upon the decomposition of proteid bodies. During hunger, therefore, about as much acetone is excreted as when the requirements of nutrition are met by moderate amounts of proteids and abundant supply of fat.

Under otherwise favorable conditions, acetonuria is very variable in different individuals experimented upon. This refers to the slight acetonuria observed under physiological conditions than to the increase of acetone excretion, which is observed in all persons after exclusion of carbohydrates from the food. An expla-

nation for this can not as yet be given. According to the author's researches, under otherwise the same conditions, old persons appear to discharge more acetone through the urine than young and strong individuals. However, the number of previous experiments is too small to permit of positive conclusions.—*Amer. Med. Surg. Bulletin.*

Ichthyol in the Treatment of Burns.—

The *Semaine medicale* publishes an article on this subject by M. L. Leistikow, of Hamburg, and abstract of which appears in the *Revue internationale de medecine et de chirurgie pratiques*. The writer states that the author's experience with this drug for a period of six years has shown that, of the numerous means recommended for the treatment of burns, ichthyol is the best and most practical. It allays the pain and causes the disappearance of the congestion as well as of the edema of the skin, not only in burns of the first degree, but also in those of the second degree, provided that all the blisters have been previously opened. In the latter case the regeneration of the epidermis begins very soon under the influence of the ichthyol; at the same time desquamation is produced, or any eschars which may exist fall off. For burns of the first degree M. Leistikow employs the following mixture: Zinc oxide, 75 grains; magnesium carbonate, 155 grains; ichthyol, from 15 to 30 grains. For burns of the second degree he uses the following paste: Zinc oxide, 75 grains; prepared chalk, powdered starch, linseed oil, and limewater, each, 150 grains; ichthyol, from 15 to 45 grains. The applications of powder and paste are renewed every twenty-four hours. In cases where the inflammatory symptoms are very intense the powder and paste may be combined as follows with good results: The burned parts are covered with the powder, over which a layer of the paste is applied.

SURGERY.

The Diagnosis of Aneurism.—A. Pearce Gould (*The Hospital*) discusses the diagnostic importance of some of the various symptoms produced by aneurisms.

The diagnosis of an aneurism depends upon finding: (1) a tumor, and (2) the communication of that tumor with the lumen of an artery.

A "pulsating aorta" is often mistaken for an aneurism, its pulsation at times being very distinct, and certain local signs of pain and dyspepsia occur which can easily be assigned to pressure of a tumor growing behind the stomach. By careful palpation there will be found to be no tumor and no enlargement of the aorta, and so aneurism can be excluded.

Where there is any doubt as to the presence of a tumor, the author mentions this simple procedure of plac-

ing the patient in the kneeling position and with belly quite lax. If on placing the hand very gently on the abdomen and keeping abdominal muscles relaxed, the examiner feels a distinct pulsation, then it is probable that there exists an aneurism of one of the high abdominal arteries; if no pulsation is felt when the viscera are allowed to fall from the spine to the aorta, it cannot be caused by a tumor, and a tumor is a prime requisite in the diagnosis.

The pulsation occurring from an abnormally placed artery may be attributed to an aneurism. In very thin individuals the normal arteries may be mistaken for aneurisms, particularly at the root of the neck and the groin; if these arteries are atheromatous, causing them to become more prominent, or if they have become more tortuous, the mistake in diagnosis is still more liable to occur.

All these errors can be avoided by noting the absence of a distinct tumor.

In intrathoracic aneurism the presence of a tumor can be recognized by the signs of pressure upon and displacement of certain of the viscera, especially the lungs.

After a tumor had been found, we are next to find out that such a tumor communicates with the lumen of an artery. An aneurismal tumor is always over and fixed to an artery, and can not be detached from or in any way separated from an artery.

It is important to remember that every pulsating tumor is not an aneurism; the pulsation must be of such a kind as to show that the tumor is filled out by blood passing into it from the artery at each heart-beat. This pulsation is expansile, and is felt in every part of the tumor. Another sign of aneurism is shrinking of the tumor when the artery above is compressed.

The bruit and the thrill are of no significant value; while the pressure signs are of some diagnostic value.

A tumor which is the seat of expansile pulsation, and which empties a part of its contents into the artery when the direct flow of blood through the vessel is cut off, the author says, must be an aneurism.—*Amer. Med. Surg. Bulletin.*

OBSTETRICS AND GYNECOLOGY.

Delirium after Gynecological Operations.

—Doleris (*Nouvelles Archives d'Obstet. et de Gynec.*) has prepared an instructive memoir on the appearance of acute more or less maniacal delirium after "minor" gynecological operations and plastic surgical proceedings. In one case no operation was performed, but the patient worried continually about surgical relief, till a maniacal attack came on. Two fatal cases occurred in Doleris' experience. In both the patient was vicious, plethoric, alcoholic, and syphilitic. One was very rich and luxurious; she took great quantities of ether. After an operation from the uterine side for the cure of sup-

purating tubes, violent delirium set in with ioterus and no fever. Death occurred on the sixth day; complete asepsis was proved at the necropsy. The second patient was a servant at a beershop. Very large sclerosed ovaries were removed. Fatal delirium ensued; neither vomiting nor fever were observed. In six instances the patient recovered. The curette and dilator, etc., were used in one for diseased appendages, after Doleris' principles. There was delirium for a few days. The same phenomenon was seen in a patient on whom he operated for prolapse and cystic cervicitis, and on a third also treated for these affections; this case was alcoholic. In a case of procidentia, the patient being 52 years old, symptoms of melancholia had been seen before a plastic operation for procidentia. Afterwards she was troubled for a time with acute delirium and ideas of persecution, etc. A nervous young Syrian woman had fits of violent fear after an operation on the cervix. Lastly, a stout phlegmatic woman had acute delirium and insomnia after an operation for prolapse. No other neuroses of the kind have been noted by Doleris in the course of about 2,000 similar operations. —*Brit. Med. Jour.*

Total Abdominal Hysterectomy.—Richelot (*Presse Med*) advocates complete abdominal hysterectomy for uterine fibroids, as operations in which a pedicle or stump is left have many disadvantages—for example, hemorrhage from or suppuration round the stump. He operates as follows: After the uterus has been pulled out through the abdominal wound, the next procedure depends on the number and position of the fibroids. If they are numerous or contained in the lower segment of the uterus, it would be folly to attempt to place forceps on the distorted broad ligaments. In such atypical cases he practices a preliminary removal of every fibroid which is in the way. Those with a pedicle are cut off with scissors, the interstitial ones enucleated, and lastly, the large fibroids in the lower segment are enucleated or removed piecemeal through a median incision. The uterus then becomes flaccid, and can be raised out of the true pelvis, while the broad ligaments can be depressed at will. The hysterectomy proper then begins. Standing at the woman's left side, he opens the anterior cul-de-sac, guiding the incision by the finger of the right hand in the vagina. There is no danger of infection if antiseptic precautions are taken. The advantages of opening the anterior cul-de-sac alone are (a) the tumor need not be pulled forward; (b) there is no dissection of or bleeding from the posterior edge of the vagina; (c) saving of time. Next, large curved pressure forceps, such as are used in vaginal hysterectomy, are applied to the broad ligaments by the following method, which is said to be very easily carried out. Standing at the woman's right side he makes a narrow opening with blunt-pointed scissors in the broad base ligaments, close to the cervix and just above the vaginal insertion. This is well above the ureter. The forceps are then introduced *per vaginam*, and their posterior

blade is made to pass through the opening made in the broad ligament. They can then be passed upwards and made completely to grasp the ligament with the uterine artery, which are never too high to reach if the inferior segment is free, or if a preliminary enucleation has been practiced. This done on each side the uterus is detached by cutting through the posterior insertion of the vagina. This usually causes considerable hemorrhage, which the author completely stops by pressure forceps introduced *per vaginam*. As regards dressing he introduces plugs of iodoform gauze through a speculum, which accurately fill out the vaginal wound. The abdominal wound is then sutured, and the operation is finished, the result being exactly the same as in a vaginal hysterectomy. The small openings made in the broad ligaments and the method of placing the forceps on the broad ligaments distinguish this operation from all others.—*Brit. Med. Jour.*

NOTES : AND : ITEMS

The Jefferson Medical College has purchased additional land and will in the course of next year build a laboratory, five stories in height and fitted with all modern apparatus, the first floor to be used for a dispensary. The Medico-Chirurgical College has also purchased more land and is putting up a new amphitheatre.

Meeting of Laryngologists, Rhinologists and Otologists.—On April 7, 10:00 A.M., at the Midland Hotel in Kansas City, Mo., a meeting will be held for the purpose of forming a society of laryngologists, rhinologists and otologists. All Western physicians engaged in the above specialty are cordially and earnestly invited to be present and aid in the work.

To Preserve Health of Females.—Every person, firm or corporation employing females in any manufacturing, mechanical or mercantile establishment in New Hampshire, it has been enacted, shall provide suitable seats for the use of the females so employed, and shall permit the use of such seats by them when they are necessarily engaged in the active duties for which they are employed. A fine of not less than \$10 nor more than \$30 for each offense is the penalty prescribed for a violation of this law.—*Jour. Amer. Med. Association.*

A Condensed Code Dating from the 14th Century.—Guy de Chauliac, French surgeon, author and teacher, was the chaplain and physician-in-chief for Urban V and two other popes of Avignon. He was educated at the universities of Bologna and Montpellier

and a long while a practitioner at Lyons. He was born about the year 1300. He inculcated the following embryo code of ethics:

"Bold when sure. Cautious in danger. Kind to the weak and sick. Friendly with fellow-workers. Constant in duty. Not greedy of gain.—*Jour. Amer. Med. Ass'n.*

College Library.—The library of the College of Physicians and Surgeons of Chicago has received 1,378 bound volumes since the first request was made for donations of books six months ago (*Jour. Amer. Med. Ass'n.*). These books have all been accessioned and nearly all catalogued and thus made available to students. There are a great many pamphlets, unbound books and unbound periodicals not included in this list. The more important American and a few European medical serials are represented by complete sets. This library is open only half the day at present, and yet the number of readers is increasing steadily. The librarian would be glad to receive further donations and solicits correspondence with that end in view. The duplicates will be exchanged with any library in need of them.

Electric Currents of Extreme Frequency.

—Drs. Apostoli and Berlioz report therapeutical effects of electric currents of extreme frequency, obtained by means of solenoids entirely surrounding the patient. Two series of experiments were made. The patients of the first series were hysterical subjects with various manifestations, persons suffering from neuralgia, etc. No result was obtained from electrization in such cases. In the second series of experiments, on the other hand, in cases of gout, arthritism, rheumatism, and glycosuria, the effect was remarkable. The condition of the patient was the first to be influenced. In addition, oxidation was invariably increased, as urinalysis showed. In three diabetic patients the glycosuria completely disappeared after twenty electrizations. Currents of extreme frequency are destined to become a powerful adjunct in the treatment of diseases due to impaired nutrition.—*Medical Standard.*

Changes in the Nervous System in Diphtheria.

—Pernice and Scagliosi (*Rif. Med.*) examining the nervous system in cases of death in the early stages of diphtheria find that the principal changes are to be seen in the brain, the cerebellum, spinal cord and nerves (the sciatic) being affected to a lesser degree. In the sciatic nerve there was no true alteration of the fibres, but merely a hyperemia of the perineurium and endoneurium. Most of the changes seen in the brain were referable to more or less grave disturbances of the circulation or parietal vessels: inflammatory or degenerative changes with hemorrhage; atrophic degeneration of the cells of the cerebral cortex and anterior horn of the spinal cord especially affecting the protoplasmic prolongation of the cells. Similar initial changes were seen in

Clarke's column. The authors believe that the point of departure of these changes is to be found in vascular changes due to the diphtheritic toxin circulating in the vessels.—*Brit. Med. Jour.*

Poisoning by Stale Eggs.—Dr. Cameron has reported the occurrence of vomiting and purging in seventy four nuns and girl-pupils in the boarding school attached to a convent in Limerick, following a dinner at which mutton and a custard composed of eggs, milk, corn-flour, and sugar were eaten. The corn-flower was suspected to contain arsenic, but analysis showed it to be free from poison of any kind, and to be of good quality. The sugar also proved to be pure. No other constituents of the meal could be obtained. The vomit and the stools were intensely green from the presence of biliary matter, but careful analysis failed to disclose the presence of ordinary poison. The viscera of two patients who had succumbed were also examined, but no poison was found. Ptomaines were found present, but in small quantity. The milk used had been boiled, and the meat was above suspicion. The eggs, however, were not fresh, and one presented a reddish-brown color and was thought to be bad. Some of the custard, given to pigs, induced severe diarrhea.—*Dublin Med. Journal.*

The Chemical and Physiological Changes in Milk Caused by Boiling.

—In the *British Medical Journal* for December 14, 1895, Dr. J. L. Kerr remarks that there is reason for supposing that when fresh milk is ingested the living cells are at once absorbed without any process of digestion, and enter the blood stream and are utilized in building up the tissues. The casein of the milk is digested in the usual way of other albuminoids by the gastric juice, and absorbed as peptone. There is also absorption of serum by osmosis.

The chemical result of boiling milk is to kill all the living cells, and to coagulate all the albuminoid constituents. Milk after boiling is thicker than it was before.

The physiological results are that all the constituents of the milk must be digested before it can be absorbed into the system; therefore there is a distinct loss of utility in the milk, because the living cells of fresh milk do not enter into the circulation direct as living protoplasm, and build up the tissues direct, as they would do in fresh unboiled milk.

In practice, he says, it will have been noticed by most medical practitioners that there is a very distinctly appreciable lowered vitality in infants which are fed on boiled milk. The process of absorption is more delayed, and the quantity of milk required is distinctly larger for the same amount of growth and nourishment of the child than is the case when fresh milk is used.—*N. Y. Med. Jour.*

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MEDICAL REVIEW.

A WEEKLY JOURNAL OF MEDICINE AND SURGERY.

VOL. XXXIII.

ST. LOUIS, FEBRUARY 1, 1896

NO. 5

ORIGINAL ARTICLES

Primary Hematomyelia. Traumatic and Non-Traumatic. A General Review of the Subject.

BY WARREN B. OUTTEN, M.D., ST. LOUIS.

Read before the St. Louis Medical Society, November 30, 1895.

[CONCLUDED]

Having thus quoted from many of the prominent authorities, and endeavoring to make the inquiry still more complete, the following letter was written and sent to the most prominent specialists of nervous diseases in the United States, for the purpose of getting opinions concerning hematomyelia:

DEAR DOCTOR—Being desirous of accumulating evidence as regards hemorrhage within the cord—I do not refer to extra dural hemorrhage, but to hemorrhage within the substance of the cord itself. Will you please answer the following questions:

No. 1. At what period does hemorrhage within the cord make itself manifest; the earliest possible period, and the remotest possible period in which you have observed the symptoms to manifest themselves?

No. 2. What were its causes?

No. 3. What number of cases have you seen and treated? Are they frequent or infrequent?

No. 4. What is the prognosis?

To the foregoing questions, answers were sent from the following prominent neurologists:

Dr. Charles L. Dana,	New York.
Dr. James H. Lloyd,	Philadelphia, Penn.
Dr. Landon Carter Gray,	New York.
Dr. Phillip Combs Knapp,	Boston, Mass.
Dr. S. Weir Mitchell,	Philadelphia, Penn.
Dr. H. C. Wood,	Philadelphia, Penn.
Dr. B. Sachs,	New York.
Dr. James G. Kiernan,	Chicago, Ill.
Dr. J. T. Eskridge,	Denver, Col.
Dr. F. Peterson,	New York.

Dr. G. L. Webber,	Boston, Mass.
Dr. Wm. C. Kraus,	Buffalo, N. Y.
Dr. H. M. Lyman,	Chicago, Ill.
Dr. C. H. Brown,	New York.
Dr. Howell T. Pershing,	Denver, Col.
Dr. L. Bremer,	St. Louis, Mo.
Dr. M. Allan Starr,	New York.
Dr. H. C. Shaw,	Brooklyn, N. Y.
Dr. Henry Hun,	Albany, N. Y.
Dr. David Inglis,	Detroit, Mich.
Dr. J. K. Bauduy,	St. Louis, Mo.
Dr. S. B. Cleavinger,	Chicago, Ill.
Dr. C. H. Hughes,	St. Louis, Mo.
Dr. Isaac Ott,	Easton, Penn.
Dr. G. H. McBride,	Wauwatosa, Wis.
Dr. F. R. Fry,	St. Louis, Mo.
Dr. Wharton Sinkler,	Philadelphia, Penn.
Dr. Charles G. Chaddock,	St. Louis, Mo.

To question No. 1 the following answers were made:
"If there is hemorrhage into the cord the symptoms must manifest themselves with unusual suddenness. Complete paralysis in a few minutes, or at the utmost in an hour is the usual result.

SACHS."

"I have had several such cases, all in adults from 40 to 60 years of age. The symptoms came on instantaneously.

PETERSON."

"Hematomyelia may occur at any period of life. I have seen it in the syphilitic new born. It has not occurred in my observation in the aged, that is, in as far as it was severe enough to cause any symptoms. It occurs most frequently in the vigorous and middle ages of life.

BROWN."

"Immediately after an injury. Occasionally spontaneously from diseased arteries. No statistics to answer.

STARR."

"I have had but one case, which occurred in a man about 40 years of age.

INGLIS."

"In an enormous experience of 31 years I have noticed only one case, which proved fatal. The symptoms were ushered in abruptly and instantaneously.

BAUDUY."

"Any period depending upon nature of disease involving the arteries. Cord vessels participate in all dangers common to vascular system of the body in general.

CLEAVINGER."

"Never saw a case of sudden, spontaneous intra dural cord hemorrhage. Have seen some dissolution hemorrhage.

HUGHES."

Digitized by

"Hemorrhage into the substance of the cord (non-traumatic) is very rare. Charcot taught that primary hemorrhage into the cord did not occur. Hayem (thesis Paris) promulgated the same idea. Hutin was first to describe primary hemorrhage. Other writers have been Olivier, Tevier, Hayem. The most important case of primary (non-traumatic) hemorrhage into the cord is Kindred's (*Med. News*, February 13, 1892), Sharkey (*London Lancet*, May 23, 1891), published history of a traumatic case.

LLOYD"

"In the cases coming under my observation the symptoms have followed immediately upon receipt of the injury which caused it.

ESKBRIDGE."

"Age. There are cases on record at 5 and 7 years of age, and also severe ones at an advanced age, and the majority of cases are between 20 and 40. The condition can not be diagnosticated unless symptoms appear immediately after alleged injury. In my cases symptoms appeared immediately, one aged 19, the other 32 years.

Fry."

"At the outset, while it may be admitted that spinal hemorrhage is much more rare than cerebral hemorrhages, and rarer even than reports would justify, because of mistakes in pathology, through ignoring artifices produced by manipulation, still cases where I have been satisfied of actual hematomyelia have occurred in my experience to the number of 20. The trouble is not to be determined by the symptoms. Some cases in which the spinal condition was primary did not differ from cases of transverse ascending myelitis, locomotor ataxia or spinal neurasthenia. The earliest period in my experience was one week. The man was a worker in compressed air, and within a week after taking ill with obscure febrile symptoms, manifested to be acute myelitis followed by typhomania, from which he died. The autopsy revealed what appeared to be primary hematomyelia and the cerebral inflammation was obviously of later occurrence.

KIERNAN."

In answer to No. 2; what were its causes? we quote the following:

"The most important cause of hemorrhage intra-cord is trauma. These traumatic cases are not so exceedingly rare; the trauma usually causes also compression, tearing or other injury to the cord tissue. The grave symptoms do not always occur at once. In one case of my own, in which a man was knocked off a cart, the patient was refused admission to the hospital because he seemed to be only drunk. He died within a few days with extensive cerebral hemorrhage.

LLOYD."

"Have seen but one case of traumatic hemorrhage.

HUGHES."

"Syphilis, arterio-sclerosis, rheumatism, traumatism, congenital defects, such as purpura, or any of the multitude of diseases setting up primary or secondary degeneration.

CLEAVENGER."

"My case occurred in an adult, answered above traumatic.

BAUDUY."

"Traumatism, thrown from a horse, falling off a fence backwards, two gun-shot wounds, the bullet strik-

ing the vertebræ but not entering the canal of the spine or injuring the cord by splinters of bone. The medullary hemorrhage seemed purely the result of the concussion.

ESKBRIDGE."

"Result of a fall backwards from a wagon.

INGLIS."

"Injuries, diseased arteries.

STARR."

"Trauma, disease of the vertebræ, pernicious anemia, tuberculis, convulsion over coitus, etc., doubtful.

BROWN."

"In some cases the cause can not be made out. In the majority of instances it is due to traumatism."

SACHS."

"Usually unknown, though undoubtedly the same causes as produce fragility of vessels in the brain. In one case a fall produced it. In one case, recorded by Henshen, a long hemorrhage into the cord at autopsy after arsenical poisoning.

PETERSON."

"In the case of spinal hemorrhage, occurring in a worker in compressed air, there were decidedly traumatic symptoms. In another case a newsboy was knocked down by a fire engine and bruised severely; subsequently he became a cripple in gait, and a rapidly progressive disorder, resembling locomotor ataxia, made its appearance. The arthropathies of the disease seem to interfere with the gait more than the actual loss of motor power. A mental disorder, temporary at first, passed into parietic dementia from which the patient died. The autopsy revealed recent changes in the brain and both syringomyelia and hematomyelia, the first being clearly due to the absorption of the effusion. The causes, in the majority of cases coming under my observation, were constitutional, chief pre-existing mental states, like parietic dementia. In a majority of cases, occupation, compressed air workers, severe muscular exertion and exceptionally sudden exposure to cold, traumatism were the causes. In one case menstrual suppression was alleged as the cause, but I am inclined to believe there was a defect. The predisposing elements are chief etiological factors. Syphilis, gouty diathesis, parietic dementia, lead poisoning, atheromatous tendencies all play a part. The direct influence is much less frequent than one would suspect.

KIERNAN."

"In one case a gun-shot wound. An operation and examination left little doubt that the paraplegia, etc. was caused by an intra-dural hemorrhage in the lower dorsal cord. In the other case excessive coitus, namely, five times in one night, which was immediately followed by severe pains in the lower dorsal region and a rapidly developing paraplegia with an absence of symptoms of an extensive myelitis.

Fry."

To question No. 3, namely, are these hemorrhages frequent or infrequent? the following answers were given:

"I can not recall exactly the numbers. As I have said already the traumatic cases in my judgment, are not so exceedingly rare. They are often described as 'Myelitis,' whereas in reality the process is one of softening from bruising of, and minute hemorrhage into the

tissues of the cord. See Van Gieson's paper in the *New York Medical Journal*, June 2, 1874. LLOYD."

"I have seen four or five cases. They are very infrequent. PETERSON."

"I have made the diagnosis in only three cases. They are of extreme rarity. Many of the cases in which the diagnosis of hemorrhage is made are unquestionably instances of acute myelitis, which also develops with considerable suddenness. SACHS."

"I have seen a number, three rare cases which I am positive of. The clinical picture is rare. The disease without positive differential symptoms not so. BROWN."

"Infrequent, uncertain, chiefly hospital cases, of which I have no history to refer to. STARR"

"Infrequent—a single case. INGLIS."

"Primary hemorrhage into the spinal cord is a very rare disease. It is much more rare than is supposed by the cases now and then recorded as such. Hayem goes so far as to deny the occurrence of primary, non-traumatic hemorrhage, but such an exclusive view is unwarranted. It is certain, however, that the history of primary hemorrhage has been largely written from uncertain data. BAUDUY."

"No record kept except in incidents of other ailments. Frequent in disorders involving the cord. CLEVENGER."

"Infrequently as you may infer from my previous statement in my personal experience. HUGHES."

"Four cases. They are infrequent." ESKEIDGE."

"Only two cases. Have seen several of doubtful diagnosis. They are very infrequent, that is to say cases of primary hemorrhage. Cases secondary to other diseases are more frequent, but even these are infrequent where the hemorrhage is large enough to produce symptoms. FREY."

"As will be seen under the head of question No. 2, Dr. Kiernan states that he has had actual experience in cases of hematomyelia to the number of 20, and says that the direct influence of trauma is much less than one would suspect. 'The insane will oftener have the lesion than the sane, and this is the explanation for my comparatively greater number. KIERNAN."

The following were in answer to the fourth question, namely, what is the prognosis?

"Unfavorable; there may be slight improvement, but never as much as in cerebral hemorrhage. PETERSON."

"The prognosis, even in cases where the predisposing factor is not of evil effect, is bad as to ultimate recovery. These cases, however, are diagnosticated only on autopsy; the lesion, however, is such a gross one that it would be readily detected. As Dr. Van Gieson has shown, there are wonderful spinal lesions produced post-mortem by non-expert manipulation. KIERNAN."

"Bad. Recovery never complete in any case that can be diagnosticated with any certainty. Many of the cases fatal. FREY."

"Unfavorable. HUGHES."

"Depends upon extent and location of hemorrhage.

Erb, Lydon, Gowers, Ross and other neurologists cover the ground more fully. CLEVENGER."

"My cases were all fatal. Autopsies were obtained. ESKEIDGE."

"Most unfavorable. Frequently fatal. BAUDUY."

"The prognosis for recovery is bad. If the patients live they are liable to be crippled for life. See my paper on 'Traumatic Affections of the Cerebral Regions of the Spinal Cord, Simulating Syringomyelia.' Another paper is by Minor, 'Central Hematomyelia,' *Arch. of Psych. Bulletin*, 1892, xlv., 1892. LLOYD."

"This man made a partial recovery, but secondary degeneration left him permanently damaged. INGLIS."

"Bad as to entire recovery. STARR."

"Good if slight, bad if diffused, especially as to complete recovery. BROWN."

"The prognosis will depend upon the extent of the destruction of the hemorrhage. If the hemorrhage be a slight one it can be absorbed and recovery set in. If the tissue has been destroyed the prognosis is unfavorable as regards recovery of the use of the parts. As regards life, the prognosis will vary according to the position and intensity of the lesion. Cerebral hemorrhages are much more grave than those of the dorsal or lumbar regions; but excessive hemorrhage anywhere in the cord may lead to death from secondary complications, such as cystitis, pyelitis, etc. SACHS."

In addition to the various questions herein propounded, the following neurologists reply under general assertional principles.

"The form of hemorrhage regarding which you wish information, is one which is almost purely medical, as I have had no autopsies, and know of none in this city, which show that injury to the spine or body cause hemorrhage into the substance of the spine cord alone, in previously healthy cases. Spontaneous medullary hemorrhages are, in my opinion, not so very rare, and I have reported one of them recently. DANA."

"Have seen a number of extra dural hemorrhages, but have never seen one intra cord below medulla. WOOD."

"My personal experience with intra-medullary hemorrhage of the cord is limited. I have seen a number of cases at the county hospital in which I have made this diagnosis, but have never in my life made an autopsy in a case, and have made no notes of those cases I have seen. The only cases I have seen have been traumatic. I regret, therefore, that I can give you no information based upon my personal experience. MCBRIDE."

"I regret to say that I can give no information in regard to hemorrhage into the substance of the cord. I recall one or two cases in which, at the post-mortem, there was some hemorrhage found in the cord, but it was probably secondary in nature, and I have no complete notes of the cases to which I might refer. I do not remember having seen a case of hemorrhage into the substance of the cord in which the lesion was made out before death and verified by autopsy. Of course, cases in which the diagnosis was made would be useless un-

less verified by post-mortem. For example, in one patient, whom I saw in consultation, in whom the diagnosis had been made of hemorrhage into the substance of the spinal cord; when I saw the case the symptoms were such that I felt no hesitation in pronouncing it one of secondary myelitis, and the autopsy proved the correctness of this view. I believe that hemorrhage into the substance of the cord is rare, either as the result of trauma or disease.

SINKLER."

"True hemorrhage into the substance of the cord must be rare. I have no record of a case where the diagnosis was confirmed by autopsy, except, of course, cases of laceration of the cord substance from fracture of the vertebræ. I suspected it in cases, not of traumatic origin, where the autopsy has shown acute hemorrhagic myelitis.

KNAPP."

"I do not recall a case of hemorrhage into the substance of the spinal cord.

WEBBER."

"Do you mean hemorrhage into the substance of the cord? If so, I do not believe I have ever seen a case of intra-medullary hemorrhage, and think you will have difficulty in collecting cases of this kind, inasmuch as the diagnosis must be made with considerable doubt, if at all. Nevertheless the object of your inquiry is most commendable.

KRAUSS."

"Cases of this kind are very rare, and the going over my histories for the past 20 years would be an enormous labor, and not of so much use as collecting such cases as can be found by diligent scouring of the literature of America, England, France, Germany, Italy and Spain.

GRAY."

I have never seen more than four such cases and have no notes of them.

LYMAN."

"I have never seen a case where the diagnosis of hemorrhage into the substance of the cord was free from reasonable doubt. I can say nothing from my own experience, further than that it is a very rare disease.

PERSHING."

"I know of only one case, which occurred in the practice of Dr. N. B. Carson.

BREMER."

"I presume you are referring to hemorrhage from traumatism. In my experience hemorrhage from traumatism into the substance of the healthy spinal cord is exceedingly rare. I have never seen a clear case. Capillary hemorrhages may occur in a gray substance in elderly persons, soon or immediately after the injury, such as a severe fall. I now have some specimens of this condition. If the substance of the cord is diseased, or if its vessels are diseased, and a certain amount of softening is present, then injury will give rise to hemorrhage in the area of those necrotic patches. Then hemorrhage occurs at once. If, by reason of injury, the cord is disorganized in places, the result is then that these places may rupture some time after.

SHAW."

"I do not remember to have seen the autopsy of any case of spinal hemorrhage.

HUX"

"I have not met with any intra-spinal hemorrhage.

OTT."

"In reply to your questions, Dr. Mitchell wishes me

to say, that while he has seen many cases in which he suspected hemorrhage within the spinal cord, he has never seen a post-mortem which revealed the condition.

B. C., Sec'y."

"Hemorrhage within the cord is a rare lesion. The cases in which I have made that diagnosis have not come to autopsy and therefore I am not justified in making any personal dogmatic statements concerning them.

CHADDOCK."

From the accumulated evidence thus far presented, it will be seen that there is not entire and perfect unanimity of opinion as to the existence of primary intra-medullary hemorrhage. It would seem that ample time and opportunity had been afforded to thoroughly disapprove the assertions of Charcot and Hayem; that primary hemorrhage into the cord does not occur. The proof against these assertions is certainly neither continuously definite, nor sufficiently free from doubt as to constitute always indubitable evidence of its existence. In the traumatic cases attendant elements of fracture, dislocation, along with compression or laceration of the cord substance, do not constitute pure cases, as they are complicated with other injuries. In one case, mentioned by Thorburn, a laborer was injured by a tippler of coal falling upon him; he was injured on the 30th of December and died upon the 2d day of January, an interval of four days. While there was no evidence of injury to the vertebral column, the membrane of the cord was quite normal, as was also the external appearance of the cord itself. There was found in the central gray matter of the cord a dark black hemorrhage in the lower cervical and upper dorsal region. The hemorrhage measured from $1\frac{1}{2}$ to 2 inches in its vertical direction. This case, as detailed, does not give the interval of time from the receipt of the injury and the first appearance of grave symptoms. Thorburn states that the patient was conscious at the time of his arrival at the hospital, but that the patient had stated that he had been rendered insensible for some time by the injury. May not this have been a case of cervical recoil and not primary traumatic hematomyelia? Thus Sachs says, "If there is hemorrhage into the cord, the symptoms must manifest themselves with unusual suddenness. Complete paralysis in a few minutes, or at the utmost, in an hour, is the usual result."

Eskridge says that the symptoms come on immediately after receipt of the injury, Peterson and Bauduy state that the symptoms come on instantaneously. Starr says immediately after the injury and spontaneously in medical cases, while Gowers says, "Suddenness of the onset is characteristic of the disease."

Here we have the expressions "immediate" and "instantaneous" used in the description of primary traumatic intra-medullary hemorrhage. Immediate means not deferred by an interval of time. Instantaneous means done at an instant. Hence, these expressions do not inaptly describe the rapidity of seizure. But in the description of non-traumatic primary hematomyelia, spontaneous and sudden are indiscriminately used. The

word "sudden" seems to describe its occurrence more appropriately as "sudden" is defined to mean that which is an unexpected occurrence, while "spontaneous" is that which occurs by its own force or energy, without the impulse of a foreign cause. For this reason, we would choose the expression "sudden" in preference to that of "spontaneous" in the description of this trouble. In the case mentioned by Sharkey, the patient was a boy, who was hurt by a fall while skating; he had many falls, the last one was more severe than the others. The boy walked home apparently unhurt; symptoms were not manifest until two hours afterward. The boy, however, lived eight days after accident and died of pneumonia. Here, certainly, comes in a natural doubt as to whether this might have been a case of recoil or not. The autopsy developed the fact that neither spine nor membranes had been bruised, lacerated, or that hemorrhage had occurred within the spine and membranes. It is stated that the pia was congested, but free from lymph, while there was a localized swelling at the third dorsal segment, which bulged at this level of the cord; that above and below this bulging of the cord it was softened and of slight yellow tinge. Extravasated blood was found in the whole of the transverse extent of the cord and only a slight quantity of white and gray matter on the right side could be determined. The anterior and posterior cornua of gray matter of left side was converted into a long cavity containing blood, which extended as far as the upper cervical region and below to the mid dorsal region. Is it impossible for this to have been a recoil crush? Here the third dorsal segment is in direct association with the second dorsal vertebra. The manner in which the boy had fallen is not detailed, but it is stated that he had many falls and that the last was the worst. Certain it is that after eight days hypostatic conditions are likely to have come and rendered uncertain post-mortem evidences in the immediate vicinity. Aside from the fact that above and below the bulging cord showed that the substance of the cord was softened. Is it an absolute certainty in this case whether the softening or the hemorrhage occurred first? In two cases, mentioned by Hoch, in the first the symptoms were not manifest until three weeks, while in the other there was six days' interval between the injury and the development of the disease. As Birdsall says, in commenting on these cases, "The relative long interval in both cases between the time of accident and the appearance of the first symptoms suggests to me that a process of myelitic softening may have furnished the condition for a subsequent hemorrhage."

Regarding the non-traumatic forms of primary hematomyelia, the case mentioned by Kindred is certainly the most remarkable which occurs in the literature on this subject up to date. Not a seeming break in the history of the case. The patient was in perfect health and without premonitory symptoms, and was seized instantaneously with symptoms of this trouble. Three hours later the symptoms were at their highest and the

patient died in the remarkably short time of six hours and a half after the seizure. Outside of this one the great bulk of the cases are open to reasonable doubt as to their primary and secondary nature. From what has been said thus far, and from the writers quoted, the proof of the occurrence of primary hematomyelia is still more or less shrouded in doubt. Outside of 79 cases, which we have found mentioned in the literature of the subject, only 17 autopsies were held, leaving 63 unverified and in doubt. Aside from this, many of the autopsies held do not give complete and perfect data. This is not convincingly definite, aside from the fact that it is not possible at all times to interpret post-mortem evidences, as they are frequently made in autopsies. Dana, Wood, Knapp, Gray, S. Weir Mitchell, Shaw, Sinkler, Hum, Ott, Webber and Krauss all indicate the extreme rarity of this trouble and have no records establishing its positive occurrence. We, of course, mean primary intra-medullary hemorrhage. Dana believes that hematomyelia is almost purely a medical disease. He has had no autopsies, knows of none, which show that injury to the spine or body caused hemorrhage into the substance of the spinal cord alone in a previously healthy case. He does not believe that spontaneous medullary hemorrhages are so very rare.

It will thus be seen that many of the most experienced and eminent neurologists, whose opportunities and extended research have placed them in a position to determine many of the neurological problems of the day, are by no means positive of the occurrence of primary, traumatic, uncomplicated hematomyelia, and many are uncertain of it as a diseased condition.

We can not help but believe, with Dana, that it is almost a purely medical trouble; certainly the literature on the subject indicates the same more than it would indicate it as arising from trauma. While most writers attribute to trauma the most frequent and effective elements of causation, yet the best proven cases come from non-traumatic sources. The undoubted frequency of post-mortem mistakes, the lack of disciplined competent data, makes it evident that in primary hematomyelia diagnosis is, indeed, remarkably rarely verified, and at all times strangely mixed with just and reasonable doubt, exact observations in this trouble are unusually infrequent; the accumulated cases are not of sufficient number, nor is the evidence present such complete scientific detail that a revision would very largely change previous existing views. While Van Gieson has described post-mortem evidences in complicated cases, which have not been previously described, that is to say, peculiar necrotic force at a considerable distance from the myelitic focus, which he claims are caused by hemorrhage, still, we believe that further investigation is needed to place a true interpretation of these post-mortem evidences as to their primary and secondary nature. Aside from the fact that the cases mentioned by him can not be included in the category of pure and uncomplicated primary hematomyelia.

Manley's report certainly should command attention,

as we believe it to be complete in detail and occupies a very large share of traumatic injuries to the spine, thus, in 642 cases of injuries to the vertebral column, in not a single instance was primary uncomplicated hemorrhage into the medullary substance of the cord noticed; This experience accords very closely to the writer's. Thus, out of 1136 injuries to the spinal column (not counting a much greater number to the body, buttocks and concussive falls) both from plainly evident lesions, and those unaccompanied by visible lesion, there is not to be found in the record a case of primary uncomplicated intra medullary hemorrhage. And this comes from a collation of nearly thirty thousand cases of railway injuries accumulated in the past fifteen years. Extradural hemorrhages and the complication of fractures, dislocation, punctured wounds, etc.; were manifest. In our experience injuries to the brain are far more frequent in violent falls and jumps from moving elements, such as rapidly moving trains, falls from telegraph poles, bridges, trestles, etc. My own experience certainly emphasizes the fact that a sound healthy cord with normal surroundings can not be subject to primary uncomplicated traumatic intra-medullary hemorrhage. We do not believe it possible that hemorrhage can take place into the substance of the cord without some pre-existing alteration in its consistence, produced either by trauma or disease. That, at least in traumatic cases, a direct concussive force is necessary to produce either a crush or a more or less extensive bruise of the cord substance. The demonstration of the possibility, and the absolute power of recoil in certain portions of the spinal column, particularly in the cervical and upper dorsal regions, certainly tend to make all so-called cases of primary uncomplicated traumatic hematomyelia excessively doubtful as to occurrence, and we do not believe that a single case has ever been reported entirely free from doubt, which has demonstrated its possibility. From quoted authority, surgical writers seem not to have investigated this subject, except in a single instance, with the same intelligent assiduity as neurologists. It is manifest, from what has preceded, that the painstaking, conservative, competent and experienced neurologists express doubt as to the occurrence of hematomyelia in its primary uncomplicated traumatic form. Hence, we are compelled to believe that, in view of all the attending elements of uncertainty, the primary, uncomplicated traumatic form of hemorrhage into the spinal cord has not been demonstrated, and that, at least in this variety, Charcot's and Hayem's assertion may be correct.

The Western Association of Obstetricians and Gynecologists at its annual meeting in Kansas City, December 28, elected the following officers: Dr. T. J. Beaty, Kansas City, President; Drs. J. W. Young, Kansas City, and V. P. Jones Omaha, Vice-Presidents; Dr. H. E. Pease, Kansas City, Secretary; Dr. R. M. Mitchell, Treasurer. The next meeting is to be held in Topeka, Kansas.

On Bismuth Subnitrate.

BY CHAS. O. CURTMAN, M.D.,

Professor of Chemistry at the Missouri Medical College, St. Louis.

[Report No. 9 of Research Committee B., of the Pharmacopeia of the United States of America.]

It is well known that, by treating bismuth nitrate, $\text{Bi}(\text{NO}_3)_3$, with water, very different products of bismuth subnitrate are obtained. The amount of water added, the temperature, the length of time the precipitate remains in contact with the liquid before filtering, the duration of washing and the quantity of water used in that operation, and finally, the temperature and time of drying the finished product, all have their influence in producing salts of various compositions. Many of the precipitates are shown by the microscope to consist of minute crystals, so that they may be considered as definite chemical compounds, while some are amorphous. To secure products of uniform composition, some pharmacopeias give careful, detailed directions for the preparation, while others leave the choice of the method of preparation to the manufacturer and confine themselves to prescribing tests for purity.

The U. S. P. describes the salts as "of variable chemical composition" and its tests for purity refer to the absence of foreign metals, especially of lead, silver, copper and arsenic, also of ammonia, alkalies and alkaline earths, and of carbonate, sulphate and chlorid. The only quantitative tests relating to the proportion of its normal constituents are implied in the description of the salt, which states that, when heated to 120°C ., it loses water (from 3 to 5 per cent of its weight) and when subsequently heated to redness, it leaves from 79 to 82 per cent of its weight of a yellow residue. Hence when a salt complies with the tests for absence of foreign materials, a considerable limit is allowed in the relative proportion of nitrate, hydroxid and water.

The larger modern works on chemistry give numerous different formulæ found by recent and older investigators of bismuth subnitrate, together with the conditions under which their formation was observed. Thus Dammer's Handbook enumerates 9 varieties, Michaelis' 7 and in Flueckiger's pharmaceutical chemistry we find 3 principal formulæ distinguished as *A*, *B* and *C*.

For some time past I had observed that of several specimens, received for examination, none correspond exactly to the proportions demanded by any of the formulæ published, most of them being deficient in acid. Few came within the limits of quantitative proportions stated in the U. S. P., which are the same as those of the German Arzneibuch, although in qualitative examination they complied with its demands. Of course the mistake of using tinfoil in Bettendorf's test for arsenic, to which I called attention about two years ago, was avoided, the concentrated solution of stannous chlorid being used alone. For the purpose of investigating the subject more fully, I procured specimens from some of

the principal manufacturers, and determined in them not only the freedom from impurities, but also the loss of water by heating to 120° C., and the amount of residue of bismuth trioxid left on ignition, and lastly the percentage of nitric acid. To facilitate the comparison of results I give the proportions demanded by Flueckiger's formulæ. These are:

$A = \text{BiONO}_3 + \text{H}_2\text{O}$, [or as written by others: $\text{Bi}(\text{OH})\text{NO}_3$] representing the salt as first precipitated.

$B = \text{BiOOH} + \text{BiONO}_3$, the same salt after protracted washing.

$C = (\text{BiONO}_3)_2 + \text{H}_2\text{O}$, the salt formed by long contact with acid washwater. Also that of a formula containing the salt (B) with water.

$D = \text{BiOOH} + \text{BiONO}_3 + \text{H}_2\text{O}$.

Other published formulæ demand a still larger proportion of nitric acid and need not be considered here.

These four contain as follows:

	Per Cent of Water Lost at 120° C.	Per Cent of Bi_2O_3 after Ignition.	Per Cent of Nitric Acid Radical NO_3 .
$A =$	5.894	76.413	20.311
$B =$		88.101	11.709
$C =$	1.54	80.800	21.247
$D =$	3.286	85.206	11.324

The seven specimens examined were all exceedingly light and voluminous, and would pass muster in regard to the qualitative tests of the U. S. P.

	Per Cent of Loss at 120° C.	Per Cent of Residue Bi_2O_3 .	Per Cent of Acid Radical NO_3 .
1. R. and S.	4.1	82.0	10.80
2. P. and W.	5.9	82.5	11.45
3. M. C. W.	5.3	83.1	10.21
4. M. C. W.	3.2	85.0	9.90
5. Sg.	3.1	81.2	10.53
6. M.	3.0	82.0	11.45
7. H. and T.	3.2	81.1	10.53

For the determination of the nitric acid several volumetric methods were tried on the same sample and after finding that they gave substantially equal results and agreed well with some colorimetric tests, the following was adopted as the most expeditious for the examinations: 6.189 grammes (corresponding to the molecular value of the acid radical NO_3) of the bismuth salt were suspended in 100 cc. of water at ordinary temperature, a few drops of phenolphthallen T. S. were added, and then normal solution of potassium hydroxid, in small portions, with vigorous shaking, until the red color re-

mained permanent for ten minutes. The number of cc. of normal solution used directly indicated the percentage of NO_3 . (If only 1 gm. be taken the number of cc. of solution used must be multiplied by 6.189 to obtain the percentage of NO_3 .)

The results show that Nos. 2, 3 and 4 exceed the limit of residue of Bi_2O_3 given in the U. S. P. (and in the German Arzneibuch); also that Nos. 2 and 3 lose more water than prescribed. The water lost at that temperature is the more loosely combined water of crystallization, while the separation of the water formed from the hydroxid requires a higher temperature.

The specimens examined are nearly all more basic than is demanded by the four formulæ above given. All of the other formulæ enumerated in the books require still more acid. So that we must either consider our commercial products as having more basic formulæ, or else that they are mixtures in indefinite proportions of bismuth hydroxid with the real subnitrate.

The latter is most likely the correct view. For the calculation of the actual proportions leads to formulæ of such complexity, that it is not likely that they have any existence in fact. The crystalline appearance under the microscope does not necessarily indicate that we have a single salt, but may be due to successive crystalline deposits of salts of different composition, varying in proportion according to the different methods of manufacture.

Clinical experience with these more basic preparations can alone decide whether they are sufficiently useful to recognize them by enlarging the pharmacopeial limits, so as to include them in the official standard.

While experimenting with the above and other specimens, I experienced a difficulty that may be of sufficient interest to mention. One of the tests prescribed in the U. S. P. not only for bismuth, but also for several other metallic salts, directs that after precipitating all of the metal by hydrogen sulphid from acid solution, the filtrate should leave no residue on evaporation. During the continued drought of last summer the atmosphere in my surroundings so abounded in very fine dust, that it was impossible to evaporate even the purest distilled water or alcohol without leaving a very small residue. After heating over the Bunsen flame on platinum foil, they invariably left a slight yet distinctly visible ring on the polished surface. All of the specimens tested left a similar trace of residue. Having found that this did not necessarily indicate an impurity in the salt, but was due to atmospheric conditions, I disregarded it. On repeating the evaporation during a spell of wet weather, a drop of the same liquid left no stain behind.

The San Francisco City Council has prohibited bicyclers from holding on their machines any child under the age of six years. This is the outcome of a recent crusade by the Society for the Prevention of cruelty to Children. We trust the movement will extend.—*Chicago Medical Reporter.*

MEDICAL REVIEW.

EDITORIALS

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PUBLISHED UNDER THE AUSPICES OF THE
MEDICAL REVIEW ASSOCIATION

BY O. H. DREYER.

YEARLY SUBSCRIPTION, \$3.50. SINGLE COPIES, 10 Cents.

TO CONTRIBUTORS AND CORRESPONDENTS.

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Secretaries of medical societies will confer a favor by keeping us informed of the dates of the meetings of their respective societies, and of officers elected.

Members of the profession who send us information of matters of general interest to our readers will be considered as doing them and us a favor, and we shall take pleasure in inserting the substance of such communications.

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Entered at the St. Louis Postoffice as Second-Class Matter.

Heart Failure and the Relations of "Weak Heart" and Vasomotor Paralysis in the Acute Infectious Diseases.

In a large number of acute infectious diseases the cause of death is usually claimed to be heart failure in consequence of loss of strength of the heart muscle. This loss of strength may be due to an atrophy or various degenerations of the muscular fibres of the heart, to a myocarditis or embolic infarcts; changes which are due either directly or indirectly to an infection with micro-organisms. Organic lesions of the valves may be caused, as is well known, by the same *materies morbi*. Where, in an acute infectious disease, a change in the circulation manifests itself by a weak, abnormally soft, small or irregular pulse, the conclusion often suggests itself that these symptoms may be due to a weak heart or that this organ may be, directly or indirectly, affected by an irritation of the central, or, possibly, peripheral

nervous system. The role which the vascular system, independent of its central organ, the heart, may, in some instances, play with regard to the production of symptoms that are apparently indicative of a weak heart and clinically appear to be indistinguishable from the ordinary symptoms observed in this condition, has apparently received little attention. Exact methodical experimental investigations do not appear to have been made until recently, when Dr. Ernst Romberg has devoted much attention to this question.

The author has made a series of experiments which, although they may not, for the present, furnish a new remedy or method of treatment, by which the symptoms can be more successfully combated, they certainly will, if verified by future research, throw much light upon some forms of "so-called" weak heart and, moreover, will point out the proper indications for an intelligent procedure in certain cases. From the experiments of the author it appears that vasomotor paralysis may play an important role in the symptoms that have heretofore been attributed to degenerative changes in the heart muscle. While it is a well-known fact that the condition of the circulation depends not upon the heart alone, but also upon vasomotor changes, there are, as above intimated, no exact physiological experiments on record, which in a systematic and scientific manner, demonstrate under what conditions an infection may cause vasomotor disturbances of sufficient severity to simulate the symptoms of a weak heart.

The difference in the innervation of the heart and bloodvessels suggests the idea, as the author states, that toxic principles must act differently upon the vasomotors than upon the heart. This view harmonizes at least with the experiences in toxicology.

Although the activity of the heart is influenced by the central nervous system, directly or by reflex action, it is, mainly, an "automatically active" muscular organ; while the vasomotor nerves are entirely, or almost so, dependent upon the central nervous system; their vascular tonus is principally controlled by nerve centers in the medulla oblongata and, in a slighter degree, by Goltz's centers in the spinal cord and, possibly, by peripheral centers. The author has consequently come to the logical conclusion that the heart and vasomotors must be differently affected by infectious disturbing elements. Upon this presumption he has based his experiments, published in the *Berl. klin. Wochenschr.*, of December 23, 1895, by which he tries to throw some light upon the following question: How great is the influence of the heart, how great that of the bloodvessels, resp., the vasomotor nerves, in circulatory disturbances which are usually designated as "weak heart?"

Clinical investigation can not satisfactorily and unequivocally answer the question; the physical examination of the heart does not, in the majority of cases, furnish results which could aid in its solution. The examination of the pulse by the sense of touch, the measurement of the bloodpressure by the sphygmomanometer furnish excellent results regarding the combined

actions of heart and vasomotors, but leave us in the dark with reference to the influence exerted upon them separately by acute infections. The use of the sphygmograph also does not advance, as Frey (*"Die Untersuchung des Pulses,"* 1892), has shown, our information on the subject.

The author has carefully endeavored to ascertain how often pathological changes in the heart muscle may be responsible for the condition which is clinically diagnosed as "weak heart." The percentage of cases in which pathological changes of the heart-muscle justified the clinical diagnosis of weak heart was, indeed, for instance in diphtheria, found to be larger than generally supposed. But the number of negative cases as well as those not furnishing any positive and satisfactory information was, in typhoid fever for example, so great, that the author could not hope to arrive at unequivocal and conclusive results. Consequently, there was only one method of investigation to be employed in the attempt of answering the question satisfactorily—the animal experiment.

The plan of procedure in the author's investigations depends upon the following facts. By massage of the abdomen the blood of the abdominal vessels is propelled into the heart. The escape of blood through the abdominal aorta is slightly interfered with. A large volume of blood accumulates in the heart which it propels into the aorta. The bloodpressure rises. It only rises, however, if the heart is strong enough, by increased force of contraction, to overcome the increased resistance due to the augmented quantity of blood. If the heart's energy is diminished, the bloodpressure does not rise at all but is less pronounced than it is found to be in the case of a physiological condition of the heart muscle. The rise of the bloodpressure due to abdominal massage furnishes, therefore, a test for the strength of the heart. This is equally true, according to Ludwig and Thiry, of the compression of the descending aorta above the diaphragm.

It is a well-known fact that certain peripheral irritations of sensory nerves may produce an irritation of the vasomotor center in the medulla oblongata followed by a contraction of bloodvessels supplied by the splanchnic nerves and, consequently, by an increased blood pressure. This blood pressure, however, can only take place if sensory conduction, vasomotor center, the nerves and muscles of the bloodvessels, and the heart functionate properly. A weak heart can not overcome the increased bloodpressure caused by vaso-motor irritation; no more, than the increased volume of blood due to abdominal massage or compression of the descending aorta.

A temporary (30 seconds) withdrawal of respiratory air increases the bloodpressure by direct irritation of the vasomotor center in the medulla oblongata and, also, of Goltz's vasomotor centers (section of cervical portion of cord, below medulla oblongata). The degree of increased blood pressure produced by the above means depends also, of course, upon the state of con-

traction or dilatation of the abdominal vessels at the time of examination. By the application of these methods of investigation: Abdominal massage, compression of the aorta descendens, peripheral sensory irritation and transient suffocation, the authors ascertained in their experiments whether by an artificial infection the heart or the vasomotors were affected.

If there existed, for example, a low blood pressure and abdominal massage, or compression of the descending aorta, caused a pronounced increase of blood pressure and sensory irritation or suffocation did not influence the process, then the author concluded that the diminished blood pressure was due to vasomotor paralysis; for the heart's action was physiological and not implicated in the production of the diminished blood pressure, as evidenced by the effects of abdominal massage and compression of the aorta; while upon vasomotor irritation, peripheral and central, no augmentation of blood pressure had taken place.

Had a "weak heart" been the cause of the low blood pressure, all reactions would have been negative. The same is necessarily the case, if there exists a weakness of both, heart and vasomotors.

It is to be expected, however, that the weakness of heart and vasomotors, during the course of infection, are not developed at the same time or in the same degree and that, in consequence of this fact, the combined implication of heart and vasomotors can be determined.

This presumption has been verified, indeed, by the author's experiments. He observed, for instance, that by abdominal massage, in the presence of a low blood pressure, the latter was slightly increased, and in a much smaller degree than what is normally the case; because the heart was weak. On the other hand, sensory irritation was a complete failure, in consequence of vasomotor paralysis, although the heart's energy would have been sufficient, as the massage had shown, for the production of a slight augmentation of blood pressure by vasomotor stimulation with the omission of abdominal massage.

* *

This plan of diagnostic procedure formed the basis for the experiments conducted by the author in conjunction with Drs. Bruhns and Paessler. The animals selected for the investigations were 92 rabbits.

In order to register, in these experiments, the blood pressure, independently of voluntary motion, a slight quantity of morphine (0.005—0.0075) and curarin—just sufficient to cause the cessation of voluntary muscular motility was injected hypodermically; 0.001 curarin per kilogramme of the experimental subject, being usually sufficient. The small quantity of morphine proved to exert no influence upon the arterial blood pressure and its experimentally produced variations. Curarization, it is true, reduces slightly the average arterial pressure, but, if used always under the same conditions, sources of error can be avoided.

Prof. Birch-Hirschfeld placed the apparatus of artificial respiration, used in his laboratory, at the disposal of the investigators. From the short description of the

precautions resorted to in order to avoid possible sources of error, we are convinced that the experiments were conducted with scientific exactness. As the most practical infectious material which seemed to promise the most exact results with regard to their application to human pathology and with reference to a probability of furnishing a trustworthy basis for general logical deductions the authors selected cultures of the bacillus pyocyaneus and of Fraenkel's pneumococcus.

The bacillus pyocyaneus is a great favorite among modern experimenters and has frequently been made use of by French investigators, although it plays an insignificant role in human pathology, excepting, perhaps, at the age of childhood. The authors claim to have obtained theoretically interesting scientific results during the progress of their experiments with this bacillus, which they promise to publish in detail at a future time. The results having a bearing upon the problem which they were trying to solve, may be summed up as follows: The intraperitoneal as well as the intravenous injection of cultures of the bacillus pyocyaneus produces in rabbits a lowering of the blood pressure in consequence of a paralysis of the vasomotor center in the medulla oblongata, the clinical symptoms of which are identical, at the present stage of clinical knowledge, with those usually interpreted as being due to a "weak heart." The bacillus pyocyaneus does not produce a paralysis of the peripheral bloodvessels or nerves.

Only in a few cases the force of the heart's action was affected; in these, embolic infarcts and inflammatory foci explained the decline of the blood pressure.

In a number of cases the heart rhythm—not the force of contraction—was disturbed.

* *

Fraenkel's pneumococcus appears particularly adapted for experiments similar to those related in the foregoing lines because its ptomaines produce their deleterious effects at such places only where the micro-organism forms foci of development. Unlike the ptomaines of other infectious diseases, particularly diphtheria, the ptomaines of the pneumococcus infection are not distributed throughout the tissues of the body, but locally only. Hence the wisdom of the authors in selecting this bacterium for their investigations.

In harmony with this peculiarity of Fraenkel's pneumococcus the experimental results with this micro-organism, although, in the main, similar to those obtained with the bacillus pyocyaneus, were of a more positive nature, in so far, that the heart itself was never effected, but the vasomotor paralysis the only sign of the clinically so-called "weak heart."

* *

In applying the results obtained with the experimental pneumococcus infection of animals with human pathology and the experience at the bedside, one obstacle presents itself. While in a pneumococcus infection in animals the infection appears to be principally localized in the central nervous system, it is, in man, although the nerve centers are implicated, characterized by a greater

or less consolidation of lung tissue, with a consequent interference in the pulmonary circulation, entailing an overburdening of the right side of the heart followed, in intense infections, by a paralysis of the heart. With the exception of these comparatively rare instances the pathology of heart failure in the pneumonia of man appears to be very similar to that observed in rabbit and the symptoms of heart weakness which manifest themselves in the pneumonia of man are, therefore, in most instances, probably due to a vasomotor paralysis. This conclusion is, of course, only justified if the foregoing investigations are verified which, in consequence of the apparently painstaking and exact research, we confidently expect.

* *

In recapitulating the results of these experiments it may be stated that an infection with Fraenkel's pneumococcus (as well as with the bacillus pyocyaneus) produces, in rabbits, a paralysis of the vasomotor center in the medulla oblongata, which, in case of a lethal exit, is the cause of death.

It is an interesting observation that these infections exert their action principally upon the center in the medulla, which is demonstrated by the fact that peripheral sensory irritation does not increase the heart's action after paralyzation of the vasomotor center, while suffocation is still effective in this respect, showing that the vasomotor center in the medulla oblongata is paralyzed while Goltz's centers in the spinal cord are still capable of reaction; peripheral sensory irritation acting upon the center in the medulla oblongata only, while suffocation acts upon both, medulla and Goltz's centers.

* *

These results are of vital interest and importance; not only to the professional physiologist, but to every practitioner. Aside from the fact that exact knowledge inspires confidence, not the confidence of the uneducated man with "nerve" but the confidence of the educated, which is based upon true knowledge—aside from this fact, it is not improbable, although there is no known remedy in existence at the present time, that a specific agent will sooner or later be discovered which may relieve vasomotor paralysis due to the infection with certain micro-organisms or their ptomaines, even if an antitoxin possessing the efficacy of that of diphtheria should not be discovered in all infectious diseases.

Physiology—Boehm—has furnished us with a drug—barium chloride—which, upon intravenous injection, irritates the muscular fibres and the vasomotor nerves of the peripheral bloodvessels, thereby producing a contraction of the peripheral bloodvessels and a consequent augmentation of the blood pressure. Why should it not be possible, sometime, to find an innocuous therapeutic measure by which a similar effect may be produced upon the vasomotors and by which a certain period of danger in consequence of vasomotor paralysis, or a weak heart's action, may be bridged over, until the natural

process of repair, or an artificial antitoxin, comes to the patient's rescue.

In addition to this possible result it is—judging from analogy—of practical interest to know that in pneumonia of man as well as in most other infectious diseases, vasomotor paralysis is probably the main, if not the only, cause of death from "heart failure" in the majority of instances.

BOOK : REVIEWS

Books reviewed in this column may be obtained, post-paid, by addressing the publisher of this journal, and remitting the quoted price.

The Functional Examination of the Eye.

By J. HERBERT CLAIBORNE, M.D., Adjunct Professor of Ophthalmology in the N. Y. Polyclinic; Instructor in Ophthalmology College of Physicians and Surgeons, New York; Assistant Surgeon to the New Amsterdam Eye and Ear Hospital; Author of "Theory and Practice of the Ophthalmoscope." 100 pages, with 21 illustrations. Price, \$1.00. Philadelphia: The Edwards & Dooker Co.

The author seeks justification for the composition of this book in the fact that cases of refractive errors of the eyes are constantly multiplying and that works devoted especially to their diagnosis and correction are comparatively few. He needs no apology for his theme or his finished work. He has set forth the principles and detailed the facts of this very dry and mathematical subject in a very pleasing way. The book is one with which the student and practitioner can become familiar by study and reference. The chapters of astigmatism and presbyopia are especially to be recommended and the chapter devoted to the proper use and diagnostic importance of the mydriatics is an interesting one.

T.

Announcement.—P. Blakiston, Son & Co., of Philadelphia, announce a book on "Appendicitis," by John B. Deaver, M.D., Assistant Professor of Applied Anatomy, University of Pennsylvania; Assistant Surgeon to the German Hospital, etc. The book will be arranged in a practical and systematic manner. The History, Etiology, Symptoms, Diagnosis, Operative Treatment, Prognosis, and Complications of this disease will be given in the order named. It will contain about forty illustrations of methods of procedure in operating, and typical pathological conditions of the appendix, the latter being printed in colors.

Scribner's Magazine for February might be called a mid-winter outdoor number, as it contains an unusual number of articles of life and adventure in the open air. First among these, and one that will prove of much interest to the medical profession, is the leading article of the number on the Colorado Health Plateau, by Lewis Morris Iddings, which is a delightful social study by a man who has traveled in many regions of the world, and who knows the region around Colorado Springs thoroughly, having spent a number of winters there. He describes picturesquely and with a great deal of invaluable information the life that is led there by those whose health makes it necessary for them to reside in that climate. Most of them are compelled to leisure, and therefore driven to every device for amusement, which makes the life particularly bright and attractive, so that there is not a touch of invalidism in Mr. Idding's account of it. It is a pleasing and interesting social picture that he draws, and what he has to say of the delights, conveniences and necessities of "Life in the Altitudes" is most entertaining. It is seldom that such an article is written by one who has the felicity in making phrases that stick which Mr. Iddings shows so admirably. The illustrations, of unusual beauty, are by Orson Lowell, and were made during a recent visit to that region.

Mercurial Polyneuritis.—R. V. Engel (*Prager Med. Wochenschr.*) describes the case of a 29-year-old wife, who had manifested for four months typical luetic symptoms. She was treated with mercurial inunctions and in the course of the treatment some 20 grammes of unguentum cinereum were used up. The local symptoms of the secondary syphilis subsided rapidly during the inunctions, but suddenly nervous disturbances appeared which became more and more intense and consisted of motor paresis in the extremities, abducens paresis, marked diminution of the sensation especially as regards touch and temperature, abolition of reflexes and pronounced ataxia. These symptoms could be interpreted only as due to a multiple peripheral neuritis, which was at first ascribed to the syphilis. The inunctions were consequently continued and 14 grammes more of unguentum cinereum were consumed. The nervous symptoms did not subside, however, except the abducens paresis. In the meantime Leyden's decisive contribution concerning the rare causation of neuritis by mercury appeared and this led to the abandonment of the inunctions, and then the patient improved quite rapidly, and expectative treatment was followed with a complete disappearance of all the disturbances on part of the nervous system.—*Jour. Amer. Med. Ass'n.*

Sir Joseph Lister has been elected President of the British Association for the Advancement of Science.

MEDICAL SOCIETIES

PROCEEDINGS OF THE ST. LOUIS MEDICAL SOCIETY.

W. H. FUCHS, M.D., EDITOR.

Stated meeting, Saturday evening, December 7, 1895. The President, F. D. MOONEY, M.D., in the chair.

The discussion of the subject

Primary Hematomyelia, Traumatic and Non Traumatic,

was taken up as a special order of business.

DR. KEATING BAUDUY reiterated his views of last Saturday, and said that Hayem, in denying the existence of primary hematomyelia, had reference to the medical form, claiming also that a primary traumatic form is possible. The arterial distribution in, and the anatomical construction about, the cord would seem to emphasize the impossibility of a primary medical form, but does not exclude the possibility of a primary traumatic form, as a result of a concussion or recoil.

Referring to the case cited, it would look very much like a primary medical form, but Charcot calls attention to the fact that we may have gliomatous growths and other primary pathological growths in the cord, which might look like a primary hemorrhage.

DR. WARREN B. OUTTEN closed the discussion as follows:

GENTLEMEN—In order that I may not be too discursive, I shall announce my conclusions as read to you last evening. That is, I do not believe it possible that hemorrhage can take place into the substance of the cord without some previous alteration of its consistence, produced either by trauma or a disease that, at least, is in the traumatic form. A direct concussive force is necessary to produce a crush or a more extensive bruise of the cord substance. The demonstration of the possibility, and the absolute recoil in certain portions of the spinal column, particularly in the cervical and upper dorsal region, certainly tends to make all so called cases of primary uncomplicated traumatic hematomyelia excessively doubtful as to occurrence, and we do not believe that a single case has ever been reported entirely free from doubt, which has demonstrated its possibility. It is manifest, from what has preceded, that the painstaking, conservative, competent and experienced neurologists express doubts as to the occurrence of

hematomyelia in its primary uncomplicated traumatic form. Hence, we are compelled to believe, in view of all the attendant elements of uncertainty, that the primary uncomplicated traumatic form of hemorrhage into the spinal cord substance has not been demonstrated, and, at least in this variety, the assertions of Charcot and Hayem are correct. Thus, Dr. Bauduy says. "I must take issue with our author, for, if I understand him correctly, he follows the teachings and views of Charcot and Hayem. Charcot teaches that hematomyelia of the primary type is questionable; that it may not exist; that he believes in all likelihood it does not exist. He believes furthermore, that this spinal cord hemorrhage (which is the simpler term for hematomyelia) is nothing but an epiphenomenon of myelitis."

Now, I desire to say to Keating Bauduy and the Society, that Charcot is even more definite in the expression of his opinion. Through the kindness of Dr. J. K. Bauduy I present the following translation from Charcot, where he states positively his belief, as exemplified thus: "I must not refrain mentioning the following peculiarities: Glioma is a very vascular formation and the vessels which traverse it are particularly liable to rupture; therefore, the hemorrhagic extravasations are very variable in extent in the body of the tumor. These hemorrhages in life may be revealed in consequence of sudden accident. After death they present changes which would make us believe that they were produced as a result of primary hematomyelia, which is rare, and the very existence of which is a question of doubt." Charcot's Complete Works, Vol. 2, p. 88.

I regret that I can not concur with some of the gentlemen as regards the ease with which intramedullary hemorrhage can be diagnosed, for, certainly, even here the sanction of the best authorities will not sustain them. Let us put aside, for the time being, the still predominant, pertinent and probable assertion, that a diagnosis is of no value unless verified by post-mortem evidence. Still, it is found that a mass of difficulties enshroud this from a diagnostic point of view. Permit me again to quote Gowers. He says: "The diagnosis rests on the actually sudden onset of the symptoms and on the occurrence of pain in a limited region or part of the cord. The former is evidence of a vascular region (rupture and closure) and the latter shows an acute irritation of the nerve elements, such as may be produced by their laceration, but not by mere deprivation of blood. It must be remembered, however, that we can not assume that symptoms which come on during the night's sleep are of sudden onset. Neglect of this consideration sometimes causes a mistake in diagnosis. The mode of onset is a sufficient distinction from all other organic diseases, except

hemorrhagic myelitis, or meningeal hemorrhages." The former, rarely a variety of hemorrhage, is distinguished by the existence of slight symptoms before the sudden attack. We are not justified in regarding as primary hemorrhage any case in which premonitory symptoms existed for more than a few minutes, unless such symptoms were so pronounced and sudden in onset that they might have been due to a definite extravasation, afterward increasing.

Again, Lloyd says: "The sudden onset and often rapid course of hematomyelia distinguishes it to a certain extent from transverse myelitis. The differentiation, however, is often uncertain, and sometimes impossible, as can be understood from what has already been said about myelitis. Softening and hemorrhage may, no doubt, be due to the same causes, and some cases of so-called myelitis are not truly inflammatory at all, but rather necrotic ones."

As has been just stated, the differentiation is often uncertain and sometimes impossible. Does not Gowers state, regarding the rapid onset of myelitis, such rapid onset resembles that of spinal hemorrhage, and in addition to inflammation, hemorrhagic myelitis, and then almost immediately asserts, "hemorrhagic myelitis is scarcely a special form, since any acute inflammation of the cord may be attended by a sudden extravasation of blood."

Now then, in order not to take up any more of your valuable time, I would ask if there ever has been shown by post-mortem evidence a case of primary traumatic uncomplicated intra-medullary hemorrhage, when it was plainly and indubitably shown that no alteration had occurred in the spinal cord substance before the hemorrhage commenced. Has there ever been demonstrated a case in the traumatic form of primary hematomyelia wherein the lesion commenced direct with the blood vessel? We believe that Nature never intended, in the construction of the human being, that the spinal cord should become a menace to human life by the loose construction of its vascular supply.

Finally, that I may more pleasantly illustrate to the satisfaction of my genial, jovial and pleasant friend, Dr. J. K. Bauduy, who accuses me of being a syllogizer, to thus syllogistically conclude my remarks by the following syllogism: My two first propositions are exemplified in these premises, that a healthy blood vessel does not bleed without cause; ergo, if there be no cause there can be no bleeding. Hence, in traumatic, uncomplicated hematomyelia a healthy spinal cord vessel will not bleed unless trauma solves its continuity; and it has never been demonstrated that it could do this without first rupturing its envelopes, as exemplified in the tough pia mater and the spinal cord substance.

Permit me, Gentlemen, to thank you for the pa-

tience which you have shown, and I keenly realize that necessity and good sense demands an end; hence. I think that Josh Billings made a very poor definition of "enough," when he said that "enough meant just a little more;" for the old adage still holds good. "that more than enough is too much."

* *

DR. LUDWIG BREMER spoke about, and demonstrated before the members of the society,

An Improved Method of Diagnosticating Diabetes From a Drop of Blood.

He referred briefly to his previous publications on this subject in the *Centralblatt f. d. Med. Wissensch.*, 1894, No. 49., and the *Medical News*, Philadelphia, Feb. 9, 1895. He stated that, judging from the letters received from a number of experimenters who had failed or only partially succeeded in obtaining the same results as himself, he had come to the conclusion that the process of preparing the staining fluid was a rather complicated one and required long experience in the special field of work. Besides, a serious obstacle to the obtaining of uniform results was to be found in the variability in the samples of the aniline dyes obtainable in the market. Thus, the degree of the acidity of the eosine on the one hand, and the alkalinity of the methylene blue on the other, varied considerably according to the source from which these substances had been obtained. Again, the process of preparing the specimens by means of prolonged heating was objectionable to many who otherwise would resort to this test. This process consisted in subjecting the dried blood specimen (cover-glass preparation) to a heat of 125° C. for two hours. This was a rather tedious process, requiring proper apparatus and much time. The danger, too, of overheating the specimen was very considerable. In this event the test would be negative or doubtful. For those reasons he had simplified the test, and was able to announce that he had succeeded in devising a quick and practical method, by means of which diabetes could be demonstrated as quickly by a drop of blood obtained from the end of the finger by the prick of a needle, as it could be done by the urine test ordinarily employed. Not only was his method as quick as the chemic urinary test, but it was, he claimed, more reliable. It was a well known fact that, by means of dieting and the administration of certain drugs, the sugar could be made to temporarily disappear from the urine, even in cases of well-established and undoubted diabetes. Fasting was a tolerable certain means of causing the disappearance of the sugar from the urine. But even in such cases his method revealed the diabetic, as he had demonstrated in several instances. The importance

of such a test in cases of doubtful applicants for life insurance was obvious. He knew from his own observation that persons having diabetes had been accepted by companies as good risks. The so-called danger line of specific gravity, 1030, was delusive. There were diabetics whose urine was at times, at least, of normal specific gravity.

Diabetes was a much more common disease than was generally assumed by the profession and the laity. There could, furthermore, be no doubt as to the increase of diabetic patients, a fact which had been justly attributed to the increased strain to which the modern civilized man was subjected. It was, therefore, of the greatest importance to have means of diagnosing incipient, threatening or doubtful diabetes. Such a test could be made by means of the reagent which he had prepared, and which he had provisionally named "Glycothallin."

The component parts of this substance are eosin and methylene blue. Saturated watery solutions of these dyes are mixed in about equal proportions; a precipitate forms which is insoluble in water, but soluble in alcohol. This precipitate is washed and dried. To it is added eosin and methylene blue in small quantities. The amount of each varies according to the respective degrees of acidity or alkalinity. Owing to the variability and unreliability of the dyes in this respect, the quantities had to be ascertained by practically and experimentally testing specimens of diabetic and non-diabetic blood. About one-twenty-fourth of eosin and one-sixth of methylene blue constitute the proportion for the two dyes to be added to the neutral precipitate.

The manner of procedure to make the test is as follows, as demonstrated by Dr. Bremer. The drop of blood is procured by quickly pricking the tip of the finger, preferably the fourth finger of the right hand of the person under examination. The drop of blood is spread either in the usual manner, being placed between two cover glasses, which are withdrawn from each other by means of the finger or forceps, taking care to obtain a film of equal thickness (which is sometimes hard to do); or the drop is placed near one of the edges of the square cover slip, held with the left hand, whilst with another cover slip, held with the right at an angle of about 45°, the drop of blood is gently spread and then allowed to dry. It is now, for the sake of comparison, placed with a cover slip preparation of non-diabetic blood in a wide-mouthed bottle or glass jar, such as usually employed for portable galvanic batteries, containing equal parts of alcohol and ether, say about 8 or 10 c.cm. of each. This ether-alcohol mixture is then boiled in some water, in a tin cup, at a temperature between 60 and 70°C., to fix the hemoglobin in the red blood corpuscles. (The boiling point of the ether-alcohol

solution is near 60°C.) After about two or three minutes of boiling, the coverslips are transferred to a solution of "glycothallin, prepared by dissolving about 0.025 to 0.05 grammes in about 10 c.cm. of 33 per cent alcohol. In this solution the coverslips remain for about four minutes. They are then washed in water, after which it will be found that the diabetic or glycosuric blood film presents a sap, or sometimes bluish-green color, whereas the non-diabetic blood preparation looks reddish violet. The contrast is very striking and is as plain as that which exists between diabetic and non-diabetic urine treated after the usual method with the Nylander's solution.

This specific action the Doctor claimed to have obtained in about 60 cases of diabetic and glycosuric blood. His usual method was to take the blood test first, and follow it up, resp. verify it, by the urine test. In all cases thus far examined the test has held good. Even in such cases where there was only a trace of sugar demonstrable in the urine the test was positive and convincing.

The peculiar reaction consisted in the selective affinity of the diabetic red blood corpuscles for a green substance contained in the reagent; possibly a specific principle or substance in the red blood corpuscles formed a new chemical compound with the eosin-methylene blue solution. At all events, the red blood corpuscles of diabetic or glycosuric blood were stained green, whereas those of non-diabetic blood presented a maroon or purple, madder, color. There was no differential staining of the blood plasma, except in so far as the exuded fluid from the red blood corpuscles resulting from the drying process is concerned. The test proved a supposition, enunciated by some observers, to be founded on fact, viz., that there must be a substance other than grape sugar on which the toxic phenomena of diabetes depend. For, a cover-glass slip smeared with non-diabetic, say healthy blood, when treated with a solution of grape sugar, did not yield the diabetic reaction on the application of the reagent. But the specific reaction was obtained by floating a cover slip with a film of non-diabetic blood on diabetic urine for about ten or fifteen minutes. Here, too, the stain was of the characteristic green color.

DR. BREMER stated that he had experimented with all kinds of diabetes and glycosuria; that the results had been uniform, whether the disease was one of hepatogenous, hematogenous, neuro- and psychogenous, traumatogenous, pancreatic or toxic diabetes. In all these varieties, if varieties they were, the reaction would infallibly be obtained.

He would in particular call attention to artificial or experimental diabetes, produced by the administration of phloroglucin to an animal. Of late he had experimented with rats, showing the typical reaction, both as to blood and urine. In rats, however, treated

with phloridzin, the specific reaction was absent in the blood, although the urine showed strong sugar reaction with Nylander's solution. This result had been predicted by Dr. Curtman.

DR. WARREN B. OUTTEN, in his experience of 22 years in traumatic surgery, had had a great many instances of profound shock to deal with. It is always a difficult question to decide when to operate in such cases. Nearly all writers on shock are agreed on the fact that a profound alteration of the blood elements occurs in this complication, and in this connection Dr. Bremer's studies in hematology will prove of immense benefit. He believed that there is a great future for hematology, and the time will very likely come when we will be able to determine when to operate by examining a drop of blood.

DR. KEATING BAUDUY asked Dr. Bremer whether he would furnish the powder to physicians who might wish to make the test.

DR. BREMER said he certainly would, but added, in explanation of the fact that he did not mention the exact composition of the powder, that it is impossible, on account of the variability, as to alkalinity or acidity, of the component aniline dyes, to say in just what proportion each should be used. The exact proportion of each can be determined only by experimentation. Not only does the eosin and methylene blue of different manufacturers vary as to acidity, alkalinity, etc., but those of the same manufacturer are so different as to make careful experimentation necessary before a powder is obtained which will yield reliable results. It is only within the last few days that he himself had succeeded in making a powder that could be absolutely relied upon and which would show the test when employed before the Society.

DR. WILLIAM N. BEGGS had experienced the same difficulty pointed out by Dr. Bremer. He had made a great many experiments with this test, and had found that continued and repeated trials were necessary to arrive at satisfactory results.

The dyes should be kept in a dry state, as they lose their staining qualities if kept in solution,

In order to perform the test successfully it requires an immense amount of experience, practice and technical ability, and it will be found impractical for each individual to prepare his own stains. They must be prepared by some one manufacturer, under supervision of a competent man, and the profession in general must be supplied through this channel.

THE ILLINOIS SUPREME COURT has decided that physicians can not be compelled to report contagious diseases or render other services to the public without pay.

ABSTRACTS

MEDICINE.

Vaccine Immunity.

All research with regard to the active principle of vaccines has been unsuccessful (Profs. Beumer and Peiper, of Greifswald, in *Berl. klin. Wochenschr.*). Nevertheless, the microparasitic character of the vaccines has not been denied. And, again, it is granted that those micro-organisms call forth an action in the bodies of the vaccinated which renders the latter immune from the poisons of the variola vera for a number of years.

The duration of this immunity varies between wide limits, lasting in some persons throughout life, and disappearing in others after a certain number of years. An imperial commission on vaccination has found the average duration of the immunity to be ten years. One of the writers has shown that this average is placed too high, since vaccination was successful in 98.75 per cent of the cases examined ten years after the first vaccination. Glogowski and Biedert state that the period of immunization is from six to seven years in the majority of cases and that in some it is even less. This does not, however, detract from the great value of vaccination as practiced at the present time.

Reasoning by analogy from the experimental and clinical results obtained from the blood-serum-therapy in tetanus, diphtheria, typhoid, cholera, and other diseases, we must conclude, from the truly wonderful results of vaccination for immunization, that immunizing substances are developed in the body, or, more correctly, in the blood, of the vaccinated. It seemed reasonable to suppose that these substances should be found in the blood-serum of those individuals who had been vaccinated, or in the blood serum of those who had lived through an attack of variola.

Gundobin experimented on this line on a calf two and one half months old. This calf was immunized. Twenty-six days later vivisection was performed and the serum (28 c.c.) was injected subcutaneously into another calf. This second calf was vaccinated five days thereafter. In a few days several nodules were found on some of the incisions, and the wounds were slightly reddened and infiltrated. All the nodules were covered with scabs, but without the formation of pustules. The temperature of the calf was not markedly raised. In a fortnight the points of vaccination were completely healed.

Landmann, working on the same lines, was unable to discover immunizing substances in the blood-serum of vaccinated individuals.

Centanni's experiments seem to prove that the immunity does not depend on the presence of immunizing substances in the blood-serum, and that these substances

may be absent from the blood serum, and the individual still be highly immune.

Llewellyn Elliot, of Washington, testing the influence of vaccine serum on variola according to the method employed by Landmann, gives his results as follows: Vaccine serum modifies variola, exerting its influence by aborting the course of the papules or vesicles and causing the postules to dry up more quickly and without leaving cicatrices behind.

The results of Straus, Chambon, and Menard lead to directly opposite conclusions. This fact led the authors to inquire into this subject anew. They made several elaborate experiments on calves, and although they had been of the opinion that they would be able to prove the existence of immunizing substances in the blood-serum or in the blood of vaccinated animals, these experiments have convinced them to the contrary. They sum up their results as follows: In the blood or in the blood serum of vaccinated calves there are no "protective substances" which, when introduced into other calves, can give them immunity, or at least, they are at present in such small quantity that their practical application seems to be excluded.—*Amer. Med. Surg. Bulletin*.

The Auscultatory Signs of Mitral Stenosis.

Graham Steell (*Med. Chron.*) has systematically analyzed 60 cases (41 female, 19 male) of mitral stenosis from the point of view of physical investigation; 17 died, and the post-mortem records are given. The results are compared with a table published by the author in 1888 as the outcome of his clinical experience. Of changes in the natural sounds of the heart, accentuation of the pulmonary second is unimportant, since it is common to all forms of cardiac disease; accentuation of the first and reduplication of the second sound in the mitral area, are, however, both common signs, each occurring in about two-thirds of the cases. Absence of the second sound from the mitral area is, however, comparatively rare. With regard to murmurs the apical presystolic was only present in just over half the cases, while a diastolic could be heard in four-fifths; this latter was more frequently audible both at the apex and above than at the apex alone. In three-fourths of the cases an apical systolic murmur was present, often not conducted round to the back; in 88 per cent there was a systolic murmur in the pulmonary area, in 68 per cent in the tricuspid region. Steell lays especial stress on the very great frequency of diastolic murmurs in mitral stenosis; no satisfactory theory of their origin has as yet been put forward. The heart in this disease is much enlarged transversely, the right auricle being, of course, increased, but the left ventricle also gaining to an extent more in accordance with clinical experience than with *a priori* reasoning. There is no pathognomonic pulse in mitral stenosis, though three stages can be roughly distinguished according to the successive conditions of tension and regularity through which it passes.—*Brit. Med. Jour.*

Psittacosis. (?)

Palamidessi (*Il Policlinico*) records the appearance of an infectious malady which, within twenty-four hours, attacked five members of a Florentine family, all of whom presented the same symptoms, though in varying intensity. These were great prostration with headache, fever, drowsiness with delirium, soon lapsing into a typhoid condition, but without diarrhea, gurgling, spots or the characteristic tongue of enterica. The spleen was slightly enlarged, and there were fine shifting *rales* at the backs of both lungs. The pulmonary symptoms appeared in three or four days, without rigors; there was no bronchial breathing or local pain, but expectoration was present. Every conceivable etiological cause was excluded; some pathogenic cocci were obtained from the mouths of the patients. Three of the patients died within ten days, after prolonged coma; *post mortem* the stomach and intestines were healthy, but the lungs showed pneumonic patches in all three cases, and there was slightly fatty degeneration of the kidneys in one. The other two patients recovered. It was found soon afterward that about six or seven days before the outbreak of the disease a parrot, recently imported from Buenos Ayres, had died in the infected house after a short illness. This recalled the fact that an epidemic of fatal pneumonia had occurred in Florence a few months before in association with an infectious disease of imported parrots. (*Epitome*, October 12, 1895, par. 182). Palamidessi obtained some parrots suffering from this disease, and made from them bacteriological cultivations, together with experiments on animals. Comparison of the results of these with those obtained with the pathogenic cocci from the mouths of his patients, have led him to the following conclusions:

1. In these five patients the abnormal infectious disease was associated with the presence of a micro-organism resembling in many points the microbe of fowl cholera, but differing from it in others.
2. In morphological, cultural, and experimental characters these germs much resemble those obtained by Nocard from parrots dead of a specific infection.
3. In certain biological characters, and in the lesions which they produce in birds, they are like the micro-organisms found by Eberth, Wolff, and others, in parrots dead of an infectious disease which gives rise to an epidemic among them.
4. In this instance the facts point to a specific infectious disease of parrots, resembling cholera in its clinical characters and *materies morbi*, which is transmissible to man, and from which the family in question probably suffered.

The author admits that the proof is not yet complete, and needs further investigation, as regards both parrots and human beings; he points that con-

firmation of his views should lead to restrictions being imposed upon the wholesale importation of parrots.—*Brit. Med. Jour.*

OBSTETRICS AND GYNECOLOGY.

Stypticin in the Treatment of Uterine Hemorrhage.

In the December number of the *Therapeutische Monatshefte* there is an article on this subject by Dr. S. Gottschalk, of Berlin, an abstract of which appears in the *Therapeutische Wochenschrift* for December 22d. Stypticin, it seems, is the trade name of cotarnine hydrochloride. Chemically, cotarnine, which in combination with opianic acid forms the narcotine found in opium, is very closely related to hydrastinine. Dr. Martin Freund has found cotarnine hydrochloride comparatively non-poisonous to animals and a very efficient hemostatic in gynecological practice. It is described as an amorphous powder, almost of a sulphur-yellow color, readily soluble in water, forming a solution which becomes cloudy on exposure to light.

After meeting with failures at first, in consequence of using doses that were too small, Dr. Gottschalk increased them and witnessed brilliant results. He gave the drug by the mouth in doses ranging up to three quarters of a grain five or six times a day. Subcutaneously, he employed a sterilized ten-per-cent. watery solution, and in cases of profuse metrorrhagia injected three grains (thirty drops of the solution) deep into the gluteal muscles once a day. No unexpected effects were noted, save with a few patients who did not bear opium well, and in them the drug appeared to act as a sedative analgetic, so that it was found particularly serviceable in cases in which, together with uterine hemorrhage, there was dysmenorrhea. In this respect Gottschalk finds cotarnine superior to ergot and hydrastis, and he finds it also a suitable drug for protracted use. He is not yet prepared to lay down the indications for its employment completely, but on the strength of the observations he has made up to the present time he draws the following conclusions: Cotarnine acts promptly in hemorrhages due purely to uterine subinvolution; if, however, there are remnants of the ovum retained in the uterus, ergot and its preparations, in conjunction with hot irrigations, work better. The author recommends cotarnine in hemorrhages due to fungous endometritis, especially if they are of ovarian origin, but, of course, curetting or intra-uterine cauterization will be required for a radical cure. In hemorrhages due to fibroids and in those associated with the climacteric

cotarnine is of service. On the other hand, in hemorrhages that are secondary to parametric exudations cotarnine is inferior to hydrastis and hydrastinine. In purely congestive menorrhagia, without a substratum of organic disease, the author has met with good results from the concurrent use of cotarnine and hydrastis or hydrastinine. The remedy is powerless against hemorrhages that depend on the presence of polypous growths in the uterine cavity, no matter how small they may be. Cotarnine is contra-indicated in cases of threatened abortion, also in uterine hemorrhages occurring in the course of pregnancy. It has not yet been definitely ascertained whether cotarnine acts on the walls of the blood-vessels or on the muscular tissue of the uterus. In cases of menorrhagia the author thinks the hemostatic effect of cotarnine is rendered more certain by giving the remedy for four or five days before the flow is expected, but in reduced doses (not more than 0.035 of a grain), four times a day. As soon as the flow begins the doses are to be doubled. At the height of a profuse menstrual flow as much as three grains may be injected into the gluteal muscles, and this may be repeated for several successive days without any unpleasant result. For internal use, it is best to order cotarnine in pills or in gelatin capsules. When given by the mouth it acts more slowly than when injected into the tissues.—*New York Med. Jour.*

Rupture of the Fetal Membranes Three Weeks Before Delivery, With Persistence of Gestation to Full Term.

A. D. Stapleford (*Cincinnati Lancet-Clinic*, November, 1895) was called to attend a woman, aged twenty eight, eight months advanced in her third pregnancy, who, having received a severe mental shock sufficient to cause syncope, noticed on her return to consciousness a watery discharge from the vagina, attended with a sense of constriction in the lower part of the abdomen but no pain. On examination, the cervix was found slightly dilated, but thick and rigid; liquor amnii was flowing freely from the uterus. Her condition twenty-four hours later was practically the same, except that the abdomen was reduced to nearly half its previous size. Fetal prominences easily palpated, the amniotic flow was reduced in quantity, and no pains. Her condition remained unchanged for a week, a slight dribbling of water occurring each day, more freely on lying down. The pressure of the uterus upon the fetal prominences caused so much distress that the woman was obliged to keep her bed. By the thirteenth day a thick, bloody and offensive discharge began; the cervix was dilated to the size of a silver dollar; head and hairy

scalp plainly felt. It was considered best to wait for the onset of labor, unless hemorrhage or septic symptoms occurred. On the twenty-first day after the rupture of the membrane (full term by patient's calculation) labor pains began, and in four hours she was delivered, unaided, of a living and healthy child weighing 5 pounds; subsequent history uneventful.—*Amr. Gynec. and Obstr. Jour.*

Pregnant Uterus Complicated with Fibroid; Induced Abortion and Self-Delivery of Tumor Through the Abdominal Wall.

Jacob Frank (*Chicago Medical Recorder*), reports a case of pregnancy at the fourth month in a woman aged thirty-four, complicated by a uterine fibroid as large as a cocoanut, which could be easily distinguished from the pregnant uterus. Labor was induced, after consultation, by means of the catheter. A dead fetus was delivered, the placenta being retained; all efforts at its expulsion were futile. As hemorrhage was slight, it was considered best not to interfere. Aseptic vaginal douches were given. On the fourth day after delivery the patient expelled the placenta much distorted. There was a very offensive discharge from the uterus. Temperature of patient 104° F., pulse 120. Chills, sweats, diarrhea, and exhaustion followed. Intra-uterine douches were given frequently. This condition continued for about a week, when a fluctuating mass was felt in the right lumbar region. An incision was made into it and a quantity of very offensive pus escaped, leaving a gray, boggy mass beneath. A drainage-tube was inserted with a counter-opening near the ilium. Daily irrigation of the wound and intra-uterine douches were maintained, the patient's condition being very critical. A small opening was found in the uterine cavity which admitted the uterine cannula four inches deeper than elsewhere in the uterus. On the fifth day after the incision the intra-uterine douche water came out at the abdominal wound. Three weeks after the date of incision the boggy mass—a gangrenous fibroid which had been daily coming nearer to the surface—came away completely, leaving a granulating surface with an opening into the uterine cavity. The patient soon began to improve in health, the wound closed, and the patient regained her health and strength.—*American Gynec. and Obstet. Journal.*

PROF. LOEFFLER, the discoverer of the diphtheria bacillus, has been decorated by the French Government with the Cross of the Legion of Honor.

NOTES : AND : ITEMS

The Custom of Bestowing Prizes, which the French Academy of Medicine instituted many years ago, to encourage original investigations, seems to be a substantial stimulation in the proper direction. Every year a large number of documents are submitted to the awarding committees. During the past year thirty cash prizes, with a total of \$11,500 were awarded.

As additional recognition of meritorious work, eight gold, 150 silver and forty bronze medals were distributed.

Legal Protection of Medicine in France.—The dignity of the French medical profession is upheld by the laws of that Republic in a very commendable manner. Illegal pretensions are speedily condemned. A conviction of a first offense carries a fine of \$20 to \$100. A second conviction demands a fine of \$100 to \$200; imprisonment for six days to six months, or both. If any one is convicted of illegally advertising himself as a physician he is punished with a fine of from \$200 to \$400; imprisonment for six days or one month, or both. Subsequent convictions are punishable to the extent of a fine of from \$400 to \$600; prison for one day to one month, or both.

Suicide of a Faith Healer.—In Rochester, N. Y., a female faith healer hanged herself from an apple tree. She was a resident of East Wayland and was the leader of a band of Christian Scientists, or something of that sort. Having been called in to heal a case of meningitis, and having failed, the parents of the patient drove the band out of their house. The failure worried the leading healer to that extent that she threatened to drown herself. She was watched, however, and that mode of self-destruction was prevented, but she managed to elude the watchers as far as to get away and hang herself.

A Treatment for Epilepsy.—The *Press Medicale* for January 1 states that, according to M. Bekhtereff, of St. Petersburg, the combination of caffeine and *Adonis vernalis* with a bromide gives very remarkable results in the treatment of epilepsy. He usually employs the following solution: Leaves of *Adonis vernalis*, from 20 to 50 grains; boiling water, 5½ ounces. After this has been filtered the following are added: Potassium bromide, from 114 to 170 grains; caffeine, from 2 to 3 grains. From four to eight teaspoonfuls are to be taken every day in water or in sweetened milk.

It is said that M. Bekhtereff has not yet met with a single case of epilepsy in which the disease proved absolutely refractory to the employment of this medication. He has always obtained either a complete cessation of the attacks or a marked diminution in their intensity and frequency.—*N. Y. Med. Jour.*

MEDICAL REVIEW,

A WEEKLY JOURNAL OF MEDICINE AND SURGERY.

VOL. XXXIII.

ST. LOUIS, FEBRUARY 8 1896

NO. 6

ORIGINAL ARTICLES

The Significance of Hair in Forensic Medicine.

BY DR. CHAS. O. CURTMAN,

Read before the St. Louis Medical Society, January 11, 1896.

In many cases before our courts the identification of hair is of great importance. Thus, for instance, the dead body, of a man is found, in whose rigid grasp a bundle of hair is retained. No open wound is visible on the body, and the bruises and internal injuries may have resulted from the hoof of a horse or mule, or from the horns of a vicious bull, or they may have been inflicted by the club of a murderer. In his struggle for life the deceased has torn out a handful of hair from his antagonist and this is now to be examined and to serve as a mute witness to identify the assaulter. Has it been an animal or a man; a white man or a negro; does the color and the other characteristics of the hair correspond with that of a man suspected of the crime, or does it differ so as to exonerate him from the unjust suspicion? Or, there are hairs found sticking to a bloodstained weapon and the question arises, whether they are those of a slaughtered beast, or of a man, whose disappearance has given rise to a suspicion of foul play? Or, there is a question of identity between a young man, with brown hair, who left his home many years ago, and now returns, as a gray-headed man, to claim an inheritance or a pension. Or, the finding of pubic hairs on the genitals of the opposite sex is to be utilized to cast light on an obscure case of rape. Neither is there any lack of other cases in which the identification of hair of a person, or of furworn as clothing, may serve as valuable evidence, if indeed the question of its derivation can be settled beyond doubt and uncertainty. As to how far this is possible, there are different opinions. Some, without taking the trouble

to investigate the subject, claim that hair is hair, and deny any possibility of distinguishing between hairs of different derivation, while others permit their enthusiasm to make positive decisions on superficial observation, which more mature consideration and thorough familiarity with the subject would hesitate to approve.

The importance of hair as a means of proof has long been recognized, and studies of the subject have been published in various treatises, but in general the theme has hardly been esteemed at its full value, and even larger works on forensic medicine pass it by with a scant notice or ignore it entirely. To such as take an interest in the subject, a book written by Dr. Pfaff is to be highly recommended, which contains a number of very accurate original drawings, many of which have been copied into other works without giving credit to the author.

It is far from my intention to attempt in this paper an exhaustive treatment of the subject, nor to bring much new matter, but to call the attention of the profession to a somewhat closer study of hair and to epitomize for this purpose what is known already, as well as to announce briefly the result of some of my investigations. A few of the drawings by which I illustrate the description, are borrowed from Bizzozero, Stricker and Pfaff, but by far the greater part are made by myself by means of a Piffard prism, from preparations which I have ready for inspection under the microscope, so that the truth of the drawings may be verified. They differ from those of Pfaff, who mostly gave surface views of dry objects, by having been made from preparations rendered transparent by immersing them into ethereal oils and imbedding them in balsam or by similar treatment permitting the ready examination of the internal structure. A brief reference to the anatomical structure of hair may serve to elucidate the subject.

Hairs are filiform tissues, inserted partly into the skin, mostly in an oblique direction, partly rising above it. The part which is covered by the skin is called the *root* and that outside of it the *shaft* of the hair (Fig. I). The part of the skin, which surrounds the hair, is an indentation of the corium, and bears the name of *hair-sac* or *follicle*. Its outer layer (Fig. II,

1) consists of connective tissue and receives the attachments or the arrectores pili muscles, and is penetrated by the ducts of the sebiparous glands. Its inner layer (Fig. II, 2) which is next to the hair, is clear and transparent and is known as the *hyaline membrane* of the follicle. Within the follicle we find the hair enveloped by the *root-sheath*, of which we again distinguish an outer (Fig. II, 3) and two inner layers, the sheath of Henle (Fig. II, 4) and that of Huxley (Fig. II, 5). The lower end of the follicle terminates in a goblet-shaped attachment of connective tissue.



FIG. I.—Hair of Beard.
(Stricker).



FIG. II.
(Bizzozero).

1. External membranes of follicle.
2. Internal hyaline membrane.
3. External root-sheath.
4. Henle's layer.
5. Huxley's layer.
6. Cuticle.
7. Cortical substance.
8. Medulla.

Beginning at the lower end of the hair proper, we find the *papilla*, of somewhat pear-shaped form, which in its lower and thicker portion receives the bloodvessels, and in the upper narrower portion is continuous with the *medulla* (Fig. II, 8). In the tactile hairs of the mystax of the cat and other mammalia nerves enter the papilla. Surrounding the papilla we find the *hair bulb*, which occupies the deepest part of the follicle.

The hair bulb (hair-button or onion) is imposed upon the papilla similar to an inverted funnel with a globular constriction below. It finds its continuation upward in the *cortical substance* (Fig. II, 7). This is surrounded by a thin *epidermal* layer, the *cuticle* (Fig. II, 6). Between the thicker bulb and the shaft

of the hair a *middle portion* of somewhat less diameter is often found. This is frequently bent into a hook-like curve (Figs. XII, XIII, XV, XVI, XXIII and XXV).

A longitudinal section through the hair shows in the *shaft*, on the outer portion the *epidermis* (Fig. III, 1) which consists of flattened cells, superimposed upon each other like shingles on a roof, with the free end turned upward. If a hair is drawn through the fingers from the root towards the point, it feels



FIG. III.
(Pfaff).

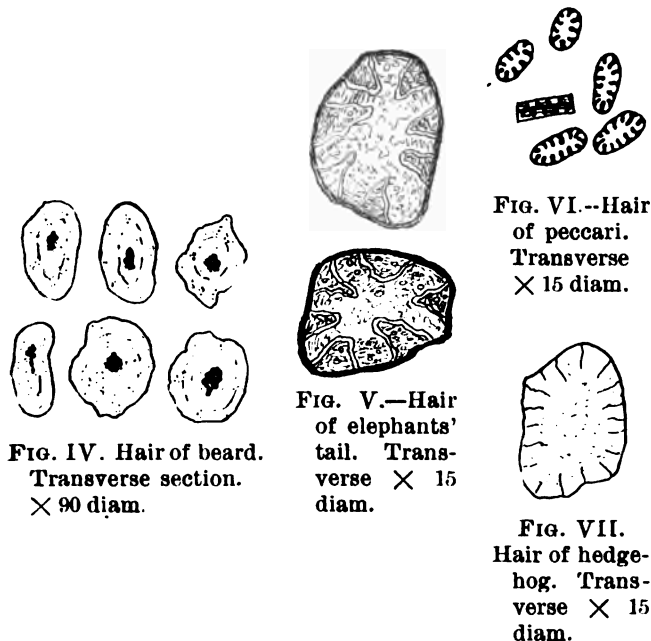
1. Epidermis.
2. External cortical layer.
3. Internal cortical layer.
4. Medulla.

smooth, but if drawn in the opposite direction the ends of the projecting epidermic cells, by their resistance, give rise to a rough feeling, which in the hair of the bat and some other animals is very marked. The projection of these epidermal margins permit the "felting" of wool, rabbit-down, etc.

Under the epidermis we find the *cortical layer*, which Dr. Pfaff divides into an outer portion (Fig. III, 2) with closely packed fibrillae, and an inner (Fig. III, 3) whose fibres lay further apart and form, by means of the intervening spaces, a capillary network with frequent anastomoses. Enclosed by these is the *medulla* (Fig. III, 4) which in coarser hairs consists principally of pigment corpuscles, fat cells and intermediate spaces filled with air. In fine hairs the pigment of the medulla is frequently absent, especially so in the lanugo. The medulla is not always located in the central axis of the hair, but sometimes on one side, sometimes it is cleft into two branches. Its diameter varies in size and proportion to that of the entire hair. Thus the pigmented medulla of the horse and the cat is unusually thick and occupies so

large a portion of the hair, that the cortical portion becomes exceedingly thin, while in other hairs the medulla forms a thread of almost vanishing tenuity. In the medulla of the hairs of some animals flattened plates of pigment alternate with colorless substances and form tessellated and other designs (mouse, rat, etc. (Figs. XXIX, XXX), which aid much in the identification of such hair. In some hairs the pigmentation reaches far down towards the papilla, either with an abrupt square termination, or by a long tapering point (dog) in others an interval of colorless medullary substance is interposed between the papilla and the shaft. Nor does the medulla always form a uniform and straight central axis of the hair, but shows in some places deflections and interruptions, either by air spaces void of cells, or by encroachments of the cortical portion. Yet in all such displacements a sufficient cavity exists to permit the free passage of gases or liquids from the papilla to the point. Griffith was the first to call attention to the presence of air in the medulla of the hair, and some older physiologists describe the hair as an organ of exhalation, acting by means of the medullary tube.

The transverse section of a hair is not always circular like that of a cylinder, but frequently shows polygonal forms with irregular, rounded corners, sometimes oval, sometimes long and narrow, and even in some cases with enlarged ends. See Figs. IV, V, VI, VII and XXXVI.



The curled hair of the negro is not everywhere cylindrical, but mostly ribbon- or strap-like and we find a similar condition in the natural wavy locks of Caucasians and with hairs of the pubes, axilla, and mustache. See Figs. VIII, IX and X).

Frequently we find cylindrical portions alternating

with flat ribbon-like ones in the same hair. Remarkable instances of such alternations in an individual



FIG. VIII. — Glandebala (axilla) of negress. $\times 15$ diam.



FIG. IX.—Pubes negress. $\times 15$ diam.

hair are shown by the antbear and the ornithorhynchus (Fig. XI).



FIG. X.—Glandebala (axilla) Irish female. $\times 15$ diam.

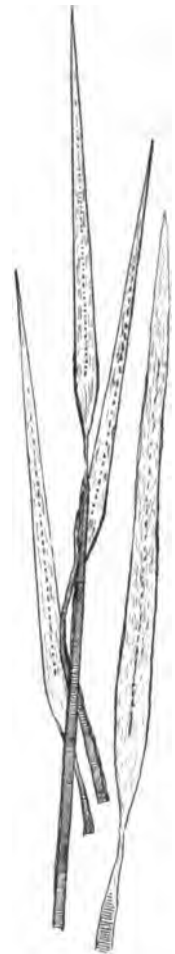


FIG. XI.—Hair of Ornithorhynchus. $\times 15$ diam.

The length of the different hairs growing on the same part of the body is exceedingly variable and we often and in the individual, man or beast, hairs of

very different length in the closest proximity on the same part of the body. With fur-covered animals this great difference is the rule, and their valuable short fur hairs are everywhere surmounted by coarse long hair, but the same condition prevails in others and may be easily observed. Hence, it would be futile to attempt giving average measures of the length of hair.

Great irregularity also prevails in the thickness of hair, but within narrower limits, so that it does not appear entirely useless to tabulate average diameters of the hair from different locations. Such a table, comprising the diameters of human hair, has been prepared by Dr. Pfaff, who gives the measures in millimeters (of which 25.4 are equal to an English inch).

MILLIMETERS.

Lanugo of infant.....	0.008 to 0.010
Lanugo, arm of girl.....	0.015
Lanugo, upper lip of woman.....	0.018
Hair from arm of adult, male... ..	0.030
Cilia of adult male.....	0.040
Tragi of adult male.....	0.045
Capilli (head) of adult female.....	0.060
Hand of adult male.....	0.070
Capilli (head) of adult male.....	0.080
Vibrissæ (nostril).....	0.080
Pubes, male.....	0.110
Supercilia.....	0.120
Mystax.....	0.130 to 0.140
Pubes, female.....	0.150
Julus (Beard).....	0.150
Glandebalæ (axilla).....	0.150
Hog's bristle (for comparison).....	0.270

Most of these values I have verified by my own

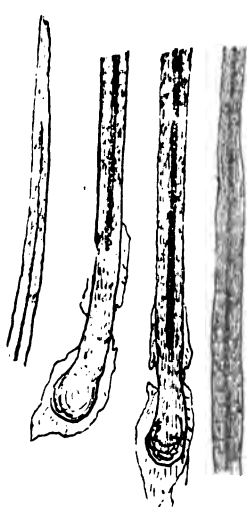


FIG. XII.—Male capilli. $\times 60$ diam.



FIG. XIII.
Female capilli.
 $\times 60$ diam.

those of Dr. Pfaff, within narrow limits above and below the average. Among other facts, I have always observed, in the specimens obtained by me a much greater thickness of the hair of the male head than that of the female, and *vice versa*, a much larger diameter of the female pubic hairs, than those of the male, so that this difference, with proper precautions, may be utilized for diagnostic purposes. Compare the hairs of the head, Fig. XII, with Fig. XIII, which are drawn on the same scale, magnified sixty diameters; also the pubic hairs, illustrated by Figs. IX, XIV and XV, with Fig. XVI, all magnified fifteen diameters.

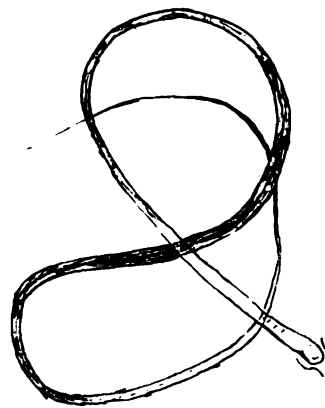


FIG. XIV.—Pubes, American girl. $\times 15$ diam.

The greatest variations in the diameter of different portions of the same hair are found in those, where

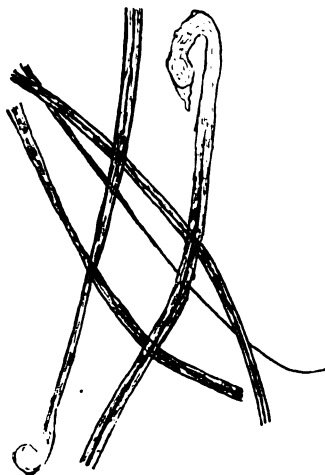


FIG. XV.—Pubes, Irish female. $\times 15$ diam.

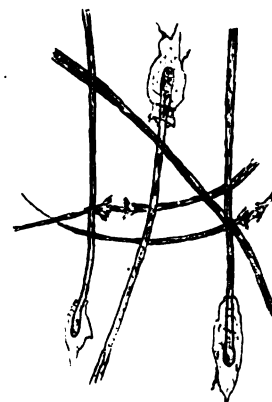


FIG. XVI.—Pubes, American male. $\times 15$ diam.

least approach the cylindrical form, but more resemble ribbons or straps. Frequently enlargements alternate in the same hair with attenuations, especially where the sweat may cause swelling of the epidermis, as in the pubic hairs (Figs. IX, XIV, XV and XVI) and in those of the axilla (glandebalæ, Figs. VIII and X).

measurements, and found them to correspond with

The hair may either end in a sharp point, more or less tapering, as in the cilium (Fig. XVII) and supercilium (Fig. XVIII), or it may have a club-shaped termination like that of the thigh (Fig. XIX) peri-

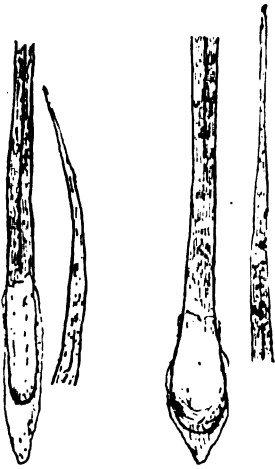


FIG. XVII.
Cilium.
× 15 diam.

FIG. XVIII.
Supercilium.
× 15 diam.

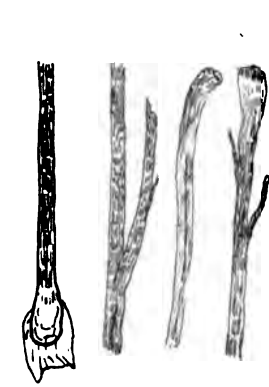


FIG. XIX.—Male thigh.

næum (Fig. XX), and back of the hand, or it may ramify into two or more branches as is occasionally seen in the female capilli, and more regularly in the hair of the thigh (Fig. XIX) and that of the mustache (Fig. XXI) and is less frequently met with in hairs from other parts of the body.



FIG. XX.—Male perineum,



FIG. XXI.—Mystax.
× 15 diam.

For a full understanding of the color of hair and especially of the gradual changes to gray and of the sudden blanching, of which we have rare but well authenticated accounts, an accurate knowledge of the minute structure of the shaft of the hair is indispensable. In his book on human hair, already mentioned, Dr. Pfaff gives an explanation, which greatly differs from that generally accepted by physiologists for the phenomena of gradual or sudden canesce. The repe-

tion and further extension of his experiments has led me to fully coincide in his opinion.*

The pigment of the hair is principally deposited in the medulla, where it forms larger or smaller corpuscles, sometimes aggregated into thin parallel or wedge-shaped layers. Besides this, a number of granules, often too small to measure, are scattered through the cortex and cuticle, which also have a clear, transparent tint, through which the deeper color of the medulla is seen. In black hairs the cuticle is often pervaded by such opaque pigment, that nothing beyond it can be seen, unless rendered visible by section or abrasion. In some animals (rats, mice, etc.), this dark cuticular pigment occasionally envelops less opaque internal structures and peculiar configurations of the medullary pigment. In some white-haired animals (notably the spitz-dog and ice-bear) a white opaque epidermis and cortex enclose a dark, sometimes a perfectly black, pigmented medulla.

With the exception of absolutely black hair, the epidermic and cortical layers of young persons are transparent, and permit the recognition of the color of the medullary pigment. The transparent tint of these outer layers is yellowish in blonde hair, reddish in red hair, and brownish in brunette hair, and this transparent tint helps to modify the color of the internal pigment.

But the cortex is by no means a homogenous structure of closely joined, transparent fibres, but is pervaded by innumerable fissures and canaliculi, which in the part next to the medulla are so large that Pfaff was induced to differentiate an internal and an external cortical layer. By the use of concentrated sulfuric acid, colored with carmin, and still more plainly by chlorin-water, he demonstrated a complete system of tubes with frequent anastomoses. As these reagents are liable to the objection, that they gradually destroy the hair, and might thus enter spaces which do not naturally communicate, I repeated the experiments with oil of cloves colored with eosin. The hair was cut off near the root and partially immersed into the colored fluid, which rose high above the level, into the upper portions of the hair, filling the communicating canaliculi of the cortex, to their termination at the cells of the epidermis and exuding between these. These experiments show the possibility of the transpiration of gases and liquids, not only, as has long been known, through the longitudinal axis of the medulla, but also as was first shown by Pfaff, laterally along the whole extent of the hair.

*Some of these experiments were shown, and a number of specimens exhibited by me at the September meeting of the St. Louis Microscopical Society.

As long as epidermis and cortex remain transparent, in their normal condition, they permit the color of the medulla to be seen. But whenever the circulation through its system of minute tubes is disturbed, so that the fibres dry and shrink, or are abnormally thickened, the cortical layer becomes opaque. The pigment of the medulla ceases to be visible and the fissured, opaque cortical layer appears white in reflected light. If this condition arises gradually and in single hairs, then the turning gray proceeds *pari passu* with the progressing opacity of the cortex. A sudden and general interruption of the normal circulation will produce sudden opacity and a rapid blanching of the whole hair.

During this change in the color, by loss of transparency of the cortex, the medullary pigment remains intact for a long time, and its presence may easily be demonstrated. Pfaff accomplished this by making longitudinal sections of the hair with delicate phytotomic instruments, or by abrasion with a fine knife. I succeeded in restoring the transparency of the outer envelope by immersion of the hair in canada balsam dissolved in colorless xylol, chloroform or similar solvents or in colorless ethereal oils. Only in advanced age or in some diseases, which interfere with the nutrition of the hair, does the pigment of the medulla disappear, and even then not suddenly. At first colorless intervals are observed alternating with islands of pigment, and the degree of this gradual disappearance may sometimes permit a guess at the age of a person. Pfaff draws the following conclusions:

"By this method, which is important in medico-forensic cases, the microscopical examination of white hairs may show whether, in younger years, they had been brown or blonde, and this possibility will continue until the last pigment corpuscle has disappeared."

It is easily seen how important a bearing such an investigation may have upon the completion of the proof of identity in case of a person, who, after protracted absence, returns to his home in old age with gray hair; but the color of whose hair in youth was known. The justness of a claim to an inheritance, or a pension, may be readily settled by such an examination of the hair.

For examining the structure of hair various reagents are useful and among them Pfaff recommends sulfuric acid, chlorin water, nitric, hydrochloric, acetic and citric acids, potassium hydrate and alcohol. As some of these reagents are liable to injure the metallic parts of a microscope, or to destroy hair prematurely, I prefer to use colorless solutions of balsam or ethereal oils, whenever the object is merely to render the hair transparent, using the others only when it is desirable to observe the gradual destruction of the hair. For

such destruction may also lead to important conclusions. Thus a solution of potassium hydrate will dissolve hair more or less rapidly according to the age of the person and may help to an approximate estimation of the age. The hair of an infant is almost instantly dissolved by lye of about 15 per cent. while that of old persons resists for quite a while. Ladies' hair is dissolved more rapidly than that of a man. The hair root will vanish before the point does. When two hairs are simultaneously treated with potassium solution, the one derived from the younger person of the same sex will be dissolved more speedily than that of the older. Hence, if a hair of known age is examined side by side with an unknown specimen, it may be known whether it belonged to a person, older or younger, or of about equal age.

In the course of the proceedings of a trial in court various questions relating to hair may be referred to the expert. A few of the most important may find a place here.

First regarding the *origin of the hair*. Are those exhibited derived from man or animals? Can the part of body be ascertained on which they have grown? Is it possible to recognize race, sex and age? Do the hairs correspond sufficiently in form, color, age and other characteristics with those of a certain person, living or dead, to prove their identity beyond a reasonable doubt?

Next regarding the *state or condition of the hair*. How has it been separated from the body? Has it fallen out by natural causes? Has it been torn out, cut off with a sharp or bruised with a blunt instrument? Has a longer or shorter time elapsed since the last trimming of the hair? Are the cosmetics or hair-dyes the same as those used by the person to be identified?

Such and similar questions arise from time to time. Sometimes they relate to animal hairs, to furs used as clothing, rugs, etc., and may form an important link in the chain of evidence brought forth to elucidate an obscure case.

In answer to the questions relating to the *origin of the hair* it must be confessed that there is no infallible *general* mark by which the hair of animals could be distinguished from that of man. Just as we are not in possession of a simple general chemical reaction to distinguish a poison from a non-poisonous substance, but must identify each individual salt before pronouncing on its character, so we have no easily observed single property which is found in one kind of hair and absent in the other. To arrive at a correct conclusion *all* characteristic marks must be closely observed. Form, size, color, internal structure, and behavior with chemical reagents must be carefully studied. A thorough acquaintance with all

of the properties of the various hairs from different parts of the human body and from at least those animals, which come most frequently in contact with man, is a pre-requisite without which no one can claim to decide such questions. In aid to such examinations drawings and minute descriptions of these hairs are very useful but can not take the place of real objects, which must be kept ready for comparison with the specimens under examination by chemical reagents and under the microscope. It requires much practice and familiarity with the subject to obtain reliable results.

For most cases it is sufficient to be thoroughly conversant with the hairs of the human head, beard, axilla and pubes and with those of the common domestic animals. If other hairs are called in question, the corresponding objects from undoubted sources must be procured for comparison before a decision is attempted. Hence I will confine myself to a short notice of such hairs as are most frequently brought to the attention of the expert in court.

Of human hair I first mention those of the head, *capilli* (Figs. XII and XIII). These, when not trimmed by shears, are mostly much longer in the female than in the male. The mean average diameter of the shaft of a male capillus is about 0.080 millimeters, of the female only 0.060 mm. The bulb deprived of its sheath measures from 0.12 mm. to 0.13 mm. in the male and 0.10 mm. in the female. The thin portion between bulb and shaft measures only 0.070 mm. in the male and 0.05 mm. in the female. Sometimes these values of the intermediate portion are smaller still, but I have also met with hairs, which did not show such diminution, but at once assumed the diameter of the shaft. When the hair is rendered transparent by means of ethereal oils or balsam, the outlines of the bulb appear very distinct through the surrounding sheath, and may be measured without difficulty. The hooked curvature of the thinner intermediate piece has been observed by me more frequently in female, than in male hair, yet the limited variety of material examined hardly justifies me in drawing general conclusions. The difference in nationality did not appear to influence the above averages of dimensions, except in the more ribbon-like hair of negroes, where the extreme limits varied more. Now and then coarser hair is found in females, but this may be considered as a rare exception, independent of nationality.

In the hair of the male the upper margins of the epidermic cells are generally more prominent than in the female, hence the latter generally feels smoother and softer than that of the male.

After trimming the hair, with scissors, the cut end, for about ten or twelve days, shows a square, smooth cut surface, without division of the diameter. But

in about a month the end has shrunk and approaches more to the natural tapering-point as time advances. In some cases, especially in females, the end is divided into two branches. All of these appearances are liable to be more or less modified by the use of cosmetic lotions, hair dyes, oils and soaps. Some of these produce swellings of the epidermis or its entire breach and abrasion, and in some cases the broken fibres of the outer cortical layer surround the breach like a wreath, an appearance which we also meet in hairs continually exposed to moisture, as in the hairs of the nose (*vibrissæ*) Fig. XXII, those of the pubes, Fig. XVI and of the axilla (*glandebalæ*) Figs. VIII and IX.



FIG. XXII—Vibrissa. $\times 15$ diam.

To ascertain the color, it is best to examine the specimen in good daylight, side by side, with a specimen of known color, so as to avoid the deception sometimes occasioned by artificial light and by the refraction of lenses not absolutely achromatic.

Perfectly opaque black hair does not become transparent by the use of ethereal oils and must be treated with caustic potassa or with acids, to permit examination of the internal structure. In gray hair, as soon as the cortical substance is rendered transparent, the pigment of the medulla may be seen, which with advancing age diminishes into small islands and only disappears at a very late period. Objects of comparison will also in this case prove useful for the determination of the color. For such investigations it should not be neglected to take specimens from different portions of the head, not too close to each other, as it is well known that the same head often bears hair of different colors. The knowledge of the occurrence of such manifold coloring in an individual may also assist in proving his or her identity. The approximate guess at the age by dissolving the hair in potash lye has already been mentioned.

MEDICAL REVIEW.

EDITORIALS

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PUBLISHED UNDER THE AUSPICES OF THE
MEDICAL REVIEW ASSOCIATION

BY O. H. DREYER.

YEARLY SUBSCRIPTION, \$3.50. SINGLE COPIES, 10 Cents.

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Secretaries of medical societies will confer a favor by keeping us informed of the dates of the meetings of their respective societies, and of officers elected.

Members of the profession who send us information of matters of general interest to our readers will be considered as doing them and us a favor, and we shall take pleasure in inserting the substance of such communications.

Communications, Medical Books for review, and all letters containing business communications or referring to the publication, subscription, or advertising department of the REVIEW, must be addressed to O. H. DREYER, Publisher 112 N. 4th Street, St. Louis.

Entered at the St. Louis Postoffice as Second-Class Matter.

The Publication of the Proceedings of the St. Louis Medical Society for 1896.

At the meeting of the St. Louis Medical Society, of February 1, the REVIEW was again elected to officially publish the Transactions of the Society. We have expressed our views regarding the method by which a prompter publication of the proceedings than heretofore could be secured and it appears that these views have met with the approbation of the publishing committee as well as of most other members of the Society. While it is a comparatively rare occurrence that papers read before the Society are not promptly turned over to the Secretary, the injustice is so much the greater of withholding from publication all the following papers and their discussions

until the delinquents' papers have been handed to the editor of the proceedings; and it is but just, as we have pointed out, that in such exceptional cases the discussions should be promptly published without the papers, thereby ensuring a regularity and swiftness of publication which would necessarily redound to the interest of the Society as well as its reading audience. The large circulation of the REVIEW, together with the fact that it is issued weekly, ensuring a wide and quick dissemination of a report of the work done by the Society's members and of the medical news emanating from its debating ground, specially adapts this journal for the mission of an official publication of the papers read before the Society and their discussions. This mission, it may be needless to add, the REVIEW is now, with the assured co-operation of the Publishing Committee and the Society's Editor, more than ever capable of performing to the satisfaction of all concerned.

Problems in Medical Education.

This is a turbulent period in the history of medical education in this country, from all parts of which are pouring in voluminous contributions to the discussion of the most practical and satisfactory means of accomplishing the solution of the burning question: how to bring about an harmonious general system of medical education. Such a manifestation is an infallible indication and unequivocal sign of the universal wish on the part of the best and most representative men throughout the land within and without the ranks of the medical profession—the wish of elevating medical education in general to a standard worthy of the dignity and civilization of this great country.

With all deference and respect for those institutions of medical learning of which every physician and every citizen may justly be proud, every medical man, whether he be connected with a medical college or not, knows that there is, to say the least, much room for improvement in some of our medical colleges. The conviction seems to become more and more universal that a medical college in order to be able to fulfill the requirements of modern true science must be abundantly equipped with scientific instruments of precision and laboratory facilities which can only be furnished by liberally endowed schools. In expressing our convictions in this respect, we will admit that in many schools with limited means there are good clinicians, with sufficient practical experience and worthy men in every respect; they are often good teachers who fill their place satisfactorily in this period of educational upheaval, provided that they be

supplied with sufficient and adequate clinical material for teaching purposes. But they are in many instances not supported by abundantly equipped laboratories, and laboratory teachers who, although they may be competent, can not devote their time to laboratory research and teaching and are, therefore, not what modern medical science has a just right to require of them. The teachers in the laboratory may be able physicians, energetic, ambitious and painstaking in their work; but in many instances they have to rely upon their private medical practice to gain a livelihood. This is a disadvantage interfering with original research as well as proper teaching. Many colleges are therefore using all their efforts in the direction of securing specialists for the laboratory branches who, receiving an adequate remuneration, do not have to depend upon practice for their bread and butter. There may be exceptional men who, in addition to tending to their private and clinical practice, are able to do better laboratory work than some who devote all their time to the latter. But these are exceptions which confirm the rule.

As we should like to see all deserving colleges grow and flourish we do not wish to recommend measures that might be, if carried out, detrimental to their vitality; but would recommend to all State legislators the enactment of laws for the prevention of the formation of college faculties who can not satisfactorily prove that their funds are sufficient to pay not only for all instrumental laboratory equipments, but also for the employment of competent laboratory teachers. The importance of a thorough laboratory course is making itself felt more and more and is recognized by everybody.

It appearing, however, a practical impossibility for some colleges to keep up, as well as should be expected from them, with laboratory equipments, instruments, experimental material and well-paid teachers, the question presents itself whether it would be practicable for the State to organize a large institution for the purpose of original investigation as well as laboratory instruction. Such fundamental medical branches as Chemistry, Physiological Chemistry, Pathological Chemistry, Physics, Physiology, Embryology, Anatomy, Botany, Pharmacology, Zoology, General Normal and Pathological Histology, Bacteriology and Experimental Therapeutics might probably be taught advantageously at such an institution, which, although it would be a great expense to the State, would obviate the necessity of each medical college providing for its own equipment in all these branches. The students, after having graduated at the State institution, could then matriculate at any of the many reputable medical colleges in order to devote themselves to clinical and hospital studies. By

the training thus obtained at such a State institution, they would be enabled to make a competent choice with regard to their future studies. If a board of education of representative men as, for instance, the Regents of the University of New York, should be entrusted with the carrying out of such a plan, the success of the undertaking would probably be insured

* *

There was a period in the history of medical education when it would have been looked upon as a waste of time by the average ambitious American medical student to listen to more than two full courses of lectures at a medical college before graduation. This was the good old, but comparatively unprogressive, period, when there was a necessity of doctors in this country and when the scientific achievements in medicine moved within theoretical limits to a much greater extent than to day, and when the practical results as far as therapeutic measures depending upon laboratory investigation did not hold out as bright hopes as they do in this new period of bacteriological research. All the experimental researches in the special branches of medical practice as well as in general medicine have since that time received a new impetus and the auxiliary sciences have increased in number and importance. Many laborious and patient investigations in microscopical anatomy, pathology, physiology, etc., which were formerly looked upon by many as of scientific value only and as often originating in the brains of enthusiastic and cruel vivisectioners, dreamers, theorizers, and disciples of speculative philosophy, have now, in their ultimate consequences, proved to be of a most practical import in the various branches of medical and surgical practice. The logical result of this great upheaval has been a general waking up to new emergencies on the part of the best and noblest men in the profession and on the part of all reputable medical colleges who are indefatigably engaged in raising the standard of medical learning so as to harmonize with the dignity and greatness of this highly civilized and cultured country. The general drift of opinion of the most representative men in the American medical profession appears to be, and—according to our own experience in this country and Europe—justly so, that medical colleges can not do the best work on a small scale, but that it requires an abundantly equipped school to do justice to modern emergencies.

It is to be hoped that the general trend in these reform endeavors will bring about a wholesome division of labor, which has already done much in the improvement of the specialties and exact scientific research. The worker in the laboratory, the clinician and hospital physician or surgeon, and the private practitioner should be separate and distinct

personalities. In the great medical centers the prestige connected with the name of a physician or surgeon in charge of a hospital gives him often an advantage over a less fortunate competitor as far as his success in private practice is concerned, which could be somewhat equalized, if the former was, in every instance, paid for his hospital work with the condition of not being permitted to engage in private practice, excepting, perhaps, as a consultant. The hospital physicians and those engaged in laboratory research would, ordinarily, be best adapted as teachers, and, if well paid, could limit their work to original research and teaching and, possibly act as consultants to those engaged in private practice. Before such plans can be carried into effect, however, there must be a radical change in the service of many of our hospitals as well as an abundant appropriation of funds to carry into effect a system of medical teaching facilitating the reform which we have tried to indicate. While this country can boast of some medical institutions which offer facilities that are the equal of and, in some respects, superior to those of the European Universities, it will take a long time before we can have a general uniform and harmonious medical educational system throughout the whole country, unless the State legislators and all educated citizens, inside as well as outside of the medical profession, take an active part in the attempt of securing it.

Professor B. G. Wilder.

The Alumni Association of the St. Louis Medical College secured the presence, on the evening of January 15th, of Prof. Bert G. Wilder, of Cornell, who delivered a most interesting lecture on "Some Problems Connected With the Cerebral Fissures." A large audience, which included many invited guests, followed the speaker's remarks with much interest. Prof. Wilder is well known to the medical and to the general scientific world as a zoologist, anatomist and neurologist. He is the joint author with Prof. S. H. Gage of a work on the descriptive anatomy of the domestic cat, which is intended as an introduction to the study of general and comparative anatomy as well as to serve as a means of introducing the new terminology which these gentlemen have originated, and which deserves the double merit of brevity and simplicity as compared with the often cumbersome terms handed down to us from former days. The newer terminology bids fair to supplant the older, at least in part. To quote Prof. Wilder, why should we say *pons Varolii*? There is no other pons in the body from which it need to be so distinguished by a second name, nor do most of us know or care anything about Varolius that we should be thus careful to pre-

serve his memory. Among many other contributions to the literature of anatomy from Prof. Wilder's pen we may mention the articles on the brain in Buck's "Reference Handbook of the Medical Sciences," which cover 100 pages in the aggregate, and the article on organonomy.

For the last few years Prof. Wilder has devoted himself almost exclusively to the study of the brain. He points out that the brains that usually come into the hands of the anatomist are those of paupers, criminals or of the insane, and urges that an attempt should be made to secure the brains of moral, intelligent and educated men and women. He already has a small collection of the last named sort and has promises of many more. E. C. R.

TRANSLATIONS.

BY EDGAR THOMPSON, M.D.

Antiseptics of the Digestive Tract.

M. Jasisewicz recently presented a paper to the French Therapeutic Society, in which he says that the application of antiseptic principles in the treatment of digestive disorders is a universal practice (*La Presse Medicale*). It does not necessarily mean the mere administration of antiseptics, but logically includes purgatives and other means which destroy germs and eliminate toxins. The antisepsis of the mouth and buccal cavity is a most essential part of this subject. On account of the many irregularities and recesses in the mouth, it becomes most favorable harbor for a most luxuriant growth of micro-organisms of all sorts. For the same reason it is almost impossible to thoroughly sterilize the mouth, many of the deeper folds, etc., remaining untouched by the ordinary method of rinsing and gargling. The catalogue of bacilli cocci, myceliums, etc., which make them abode on the teeth and gums, has a long and fast increasing array of names. Repeated washing with antiseptic solutions renders the mouth relatively sterile. The bacteriæ flora of the rectum is even more extensive than that of the mouth, but here the anticipated dangers are not so great for several reasons. In the first place germs resting in the mouth are always liable to be transplanted to some lower part of the canal as the stomach or intestines. This is manifestly not true of germs inhabiting the rectum. The only dangers are auto-infection and auto-intoxication. A thoroughly antiseptic condition of the rectum can be obtained by the combined use of purgatives and irrigation with long rectal tubes.

The antisepsis of the stomach and small intestine is not such an easy and simple matter. The antiseptic

tic agents, as a rule, can not be directly applied in a sufficient strength without causing dangerous symptoms from absorption or local irritation. The secretions of the stomach, and especially of the intestines, have marked germicidal properties, and the regulation of the food so as to leave these secretions free to act is a real antiseptic procedure. Purgatives and carminatives are antiseptics. The chemical antiseptics which can be applied to the stomach and intestines are naphthol, benzo-naphthol, slyciatate of bismuth and sloal. These agents are generally prescribed in two large doses; small doses of either of the above list will diminish the odor and modify the color of the pus and render the urine less toxic. There is no steralization, and this limited favorable modification of the color and odor of the feces seems to be the utmost effect. After this is attained any increase in the doses is futile. In fact in large doses all these antiseptics cause a serious irritation which increases the already desired condition. The author believes that great harm is often done by a too heroic antiseptic treatment of typhoid fever. He thinks that the use of external cold and a milk diet, with very mild attempts at internal antiseptics is the therapy which appeals to the best medical judgment. In infantile diarrheas the writer considers calomel the remedy "sine qua non," and the chemical antiseptics are of secondary importance.

MEDICAL : SOCIETIES.

PROCEEDINGS OF THE ST. LOUIS MEDICAL SOCIETY.

W. H. FUCHS, M.D., EDITOR.

Stated meeting, Saturday evening, December 14, 1895. The President, F. D. Mooney, M. D., in the chair.

* *

DR B. SACHS, of New York City, read part of a paper on

The Diagnosis and Treatment of Syphilis of the Nervous System.

He called special attention to the peculiar characteristics of the morbid process underlying syphilitic disease, but confined himself chiefly to the discussion of spinal syphilis. The diagnosis of syphilis of the spinal cord was not to be established according to mere topographical data, but the chief characteristics of the disease were its widespread character, involving frequently the cervical, dorsal and lumbar en-

largements of the cord, and simultaneously with this distant parts of the brain might also be subject to the disease. The second characteristic of the disease was the relatively mild intensity of the morbid process, as compared with the extensive area involved. Third, a tendency to recoveries and relapses

The reader also showed that the clinical symptoms could be explained in connection with the chief morbid lesions of spinal syphilis. Gummata of the spinal cord were extremely rare, but a gummatous infiltration starting from the meninges and involving the cord, was perhaps the most frequent form of spinal syphilis; but recent investigation show also that specific endarteritis of the spinal cord bloodvessels is quite as important a factor in spinal syphilis as specific endarteritis of the cerebral arteries is in syphilis of the brain.

In discussing the treatment the speaker insisted upon the disadvantages of the combined use of the mercury and the iodides. He preferred the use of mercury alone, and this was to be exhibited in the form of inunctions. After a thorough course of mercurial treatment the iodides should be used. Large doses of these are efficacious, small doses useless, at least in the treatment of the late nervous manifestations of syphilis. It should be remembered that the iodides have a decided tendency to produce fibroid degeneration, and for that reason the strangulation of the nerve elements might be hastened, rather than retarded by the excessive and prolonged use of the iodides. The only safe guide in the treatment of syphilis of the nervous system was to study the clinical manifestations of the disease carefully, and to infer from the changes in the clinical symptoms the variations in the morbid process, and the probability of further improvement or increased damage if treatment were persisted in.

DR. LUDWIG BREMER agreed with the author in all his views save one. He considers the pathology and treatment as practical, and thought the work in this direction will be wrought with a great deal of good to the profession in general.

Speaker has long ago abandoned the use of hypodermic injections of mercury in syphilis, although a great many years ago he was an enthusiastic advocate of the practice. He has found a number of cases of syphilis of the central nervous system, that there was a decided aggravation of the symptoms, an occurrence which the deviser and originator, Dr. Lewin, of Berlin, has pointed out. In a number of cases of syphilis of the spinal cord the treatment has not been very successful. As a rule when the bladder symptoms yield to treatment, and they are the first to indicate improvement, the other symptoms will also improve. But it has also been observed, in spastic paraplegia due to syphilis, where the bladder symptoms im-

proved or yielded to treatment, that the spastic condition would continue, proceed slowly or not at all.

Speaker referred, in words of condemnation, to the so-called American doses of iodide of sodium and potassium. He had made it a practice, for a number of years, to examine the urine of every patient coming to him, and based his opposition on the findings in these examinations, in patient who had been taking heroic doses so-called, of the iodides—100 to 150 grains three times a day. He was struck by the immense frequency of casts in the urine without albumen, a condition which he had named provisional latent parenchymatous chronic nephritis. You may examine the urine in such cases for months and years and not find a trace of albumen, when, upon some slight provocation, a cold or a trauma, the urine becomes loaded with albumen and the morphological evidence of an acute, sub-acute or mixed, an acute and chronic, nephritis appear. He has seen these evil effects in a number of cases and believes that these heroic doses can set up nephritis, can produce albuminuria and casts, and that the result of the treatment may be a sclerosis. Iodide of potassium is much more disastrous than the sodium salt, for potash affects the heart and is a kidney poison, which sodium is not. A number of disastrous results have followed in cases a few years after an apparent cure of the central nervous trouble.

Of course, it must be remembered that there is no such thing as a mathematical demonstration of anything medical. For that reason speaker could not positively assert that the cases of nephritis which he had seen in old syphilitics were really due to the excessive administration of the iodides; it is merely his impression. But it is certainly justified if we remember what marked disturbance the iodides may produce; how they sometimes exaggerate slight acute attacks, producing what speaker calls "iodide misery," a condition which is especially liable to take place in certain predisposing nervous conditions. In some persons, at least, it is very badly borne, and we must come to the conclusion that iodide is not an indifferent remedy and that it must be administered with great care. The doctor had administered the iodide in doses of 100 to 150 grains, but his impression now is that what he could not accomplish with a fifteen, twenty or thirty grain dose of iodide of sodium the larger doses would not accomplish either.

Speaker agreed thoroughly with what the essayist says in regard to Gowers' statement. It is positively sensational to say that syphilis is not curable. Every physician of long practice knows that he has treated bona fide cases of syphilis when he was a young practitioner, and has seen the same individuals 30 or 40 years later as old men, and no manifestations of syphilis had ever recurred. To say that syphilis is

incurable because it breaks out again is nonsense; this might also be said of any disease which behaves similarly. But Gowers probably had a very commendable object in view when he made that statement. By pronouncing the disease incurable he meant to deter young men from acquiring syphilis by taking better care of themselves. This is in keeping with all Gowers' writings on syphilis; there is a certain reformatory ring about them.

DR. WILLIAM JOHNSTON asked the essayist whether he considered the poison producing the hard chancre and that resulting in a soft chancre as identical.

DR. CHARLES H. HUGHES said that anybody who contributes anything to the essential differential diagnosis of syphilitic involvement of the spinal cord, independent of the previous history of the patient, has conferred a signal favor upon medicine. A clinical fact, worthy of consideration, is the one made by the essayist when he states that while most of the diseases of the spinal cord are systematic, syphilitic disease is not systematic. This is a new point in the literature of the subject. Any clinical observer which has had much experience with this disease—and it is a disease with which all physicians, who have practiced for a decade or more, become largely familiar—knows that you have concomitant head symptoms associated with spinal cord lesions of syphilis.

Another signal point in the paper, one which, as the essayist has briefly intimated, has much to do with the prognosis, is the extrinsic effect of the syphilis on the nervous system. Gowers describes it as a condition of the nervous system in which it is not primarily, but secondarily or ultimately, implicated. Even if arterial changes take place as the result of syphilitic infection of it is still an extra-dural affection, as much so as if the disease were the result of an adventitious deposit—a syphilitic gummatous deposit giving rise to the disease. This point is of clinical value in so far as it makes the prognosis much more favorable where syphilis is discovered as a complication of a nervous disease in its earlier stages. The essayist has very clearly marked out the line of change which warrants a hopeful prognosis or an unfavorable one; and this is, that as long as the disease continues to be extra-dural, or extrinsic, as he terms it, we have a condition that is amenable to the specific treatment.

In regard to the specific treatment, speaker could not concur with the opinion that small doses of iodide of sodium or potassium are always to be administered in this condition. The same rule applies in regard to neural complication as to the involvement of any other part of the organism. It is the testimony of the largest and best clinical experience of our day, and it is certainly in accord with speaker's inexperience; and he has had a large opportunity of familiar-

izing himself with syphilis in general, as well as with syphilis in connection with the nervous system. The consensus of opinion would seem to indicate that the dose of the iodides should be portioned to the effect desired. Enough of the drug should be administered to destroy the poison, if practicable, and speaker had seen a number of cases where twenty grains would produce no impression, whilst one, two or three drachms, administered three times daily, would accomplish the result, and there was recovery, or apparant recovery, from the disease. This occurred by the removal of the abnormal deposit, and not by a change produced on the nervous system itself. The tonic of the nervous system is to be maintained by other methods.

DR. WARREN B. OUTTEN, in his extensive experience in traumatic surgery, noticed that trauma often acts as the excitant factor in syphilis of the nervous system. That is, structures become implicated by the syphilitic deposit which, before the injury, had never been so affected. As is true with tuberculosis so it is with syphilis, where the normal standard of the blood, tissues or vasomotor supply is lowered the patient is much more liable to suffer from the inroads of the disease. In this case, too, the syphilitic changes involve the vessels and tissues in immediate contiguity to the central nervous tissues, but rarely, although sometimes, involve the nervous tissue, itself. Of course, we can not look for typical symptoms in these cases; we can not map out a certain set of symptoms, they are often incongruous.

In a recent paper before this Society speaker had occasion to quote the views of the essayist in connection with the influence of trauma on spinal lesions, and he found that these views corresponded with his own more nearly than any other expression. He therefore asked Dr. Sachs for his views as to the influence of trauma on syphilis of the central nervous system.

DR. KEATING BAUDUY asked Dr. Sachs whether he had not found the secondary symptoms of syphilis slight in cases which involved the nervous system. Also, whether he had not found these cases peculiarly tolerant to mercury. It had been speaker's practice to give mercury by inunctions in the manner outlined by Dr. Sachs. His success in the treatment of spinal syphilis had been very disappointing, and he had found it necessary to employ the iodides in heroic doses. He had three cases that did not yield until 800 or 900 grains a day had been given, and one case in which 1050 grains were given in three doses. The patients then began to improve and recovery followed. For that reason he believes in pushing the iodides.

DR. J. ELLIS JENNINGS had heard Growers' lec-

tures on syphilis, and the idea conveyed by him was, that syphilis is a poison which, when once introduced into the blood always remains there, and that mercury has the power to destroy only its effect for the time being. Therefore, he recommended that all syphilitics should, during the remainder of their years, be subjected to an annual course of mercurial treatment lasting six weeks.

Speaker asked Dr. Sachs as to the iris reflex in spinal syphilis, and how it differs from the iris reflex in tabes dorsalis?

DR. FRANK R. FRY used to believe in predisposition to nervous complications in syphilis; that syphilitics, as far as an invasion of the nervous system was concerned, were lacking in a resistance to the disease.

Speaker thought that the attitude of the neurologists in the matter of treatment of syphilis of the nervous system would in future largely determine the practice of the profession in general in the handling of syphilis. In studying its effects in the nervous system we have a more definite gauge or estimate to work on in the matter of anti-syphilitic treatment.

DR. I. N. LOVE requested the essayist to state whether the relative frequency of syphilis of the nervous system, 20 per cent, is a general observation of the syphilographers, or a conclusion of the neurologists. He thought that it is not the experience of the workers in general medicine that 20 per cent of the cases have an involvement of the nervous system.

DR. SACHS, in closing the discussion, took up the clinical questions first and then referred to the matter of treatment, as this seemed to be more methodical. The question alluding to the identity of poisons in hard and soft chancre was referred to in the paper in Kansas City, and was the only one for which he felt a little sorry. But it is a question which must be decided by the dermatologists and syphilographers and not by the neurologists. In his experience he had seen syphilis of the nervous system in which he had received a history of soft chancre. That is his own experience; he had been criticized for the statement, but can not yet believe that he is wholly in the wrong. It makes very little difference to him, however, whether the patient gives a history of hard or soft chancre; if the case presents a picture of syphilis of the nervous system he makes the diagnosis. The last question put to a patient in an examination is, whether he had syphilis or not? And it is possible to make a diagnosis without this knowledge. In a number of other papers that he had written on this subject he had tried to impress upon the neurologists the possibility of doing this, and it is a point which it would be well to look into very carefully.

The subject of the relation of trauma and specific diseases, is one of considerable interest and importance. Trauma bears the same relation to syphilis,

probably, that it does to the development of tumors. The growth of a tumor after an injury can not always be regarded as a coincidence, but very likely the injury has had something to do with it. However, the cases of syphilitic disease, developing from trauma, may actually be the result of hemorrhage from diseased blood vessels.

In answer to Dr. Bauduy's question, whether in cases of specific disease of the nervous system the secondary manifestations were not slight as a rule, speaker said he could not endorse that view. He had seen cases of syphilis of the nervous system in which the secondary manifestations had been extremely marked, and also in which the trouble came on promptly after the primary infection.

The question of pupil reflexes in tabes dorsalis and spinal syphilis, suggested by Dr. Jennings, was also touched upon in Kansas City. It is one of the earliest and most positive symptoms. In syphilis the pupil reflexes are lost both as to light and to accommodation, whereas in tabes dorsalis the reflex to light only is lost.

The question relating to the percentage of cases of syphilis in which the nervous system is involved, it seems, has given rise to a little misunderstanding about what has really been said. Twenty per cent is rather an extreme number, but it was derived from the statistics gathered from 5,000 patients suffering from the late manifestations of syphilis of one sort or another. Over 1,039 of these had nervous syphilis, so that between 20 and 30 per cent of the cases of tertiary syphilis had involvement of the nervous system.

In response to Dr. Bremer, regarding the therapeutics of the disease, speaker said he had never seen any of the ill effects from the use of large doses of iodide of sodium to which reference had been made. It can not be that he had overlooked them, because in private practice he always examines the urine of his patients, and many of them were treated at hospitals where the examination of the urine is made a matter of routine. He does not remember ever seeing an unusual number of casts.

The same thing may be said of the iodides as of the bromides. There is much more abuse than good use, and more harm than good done by their use. This is especially true if the iodides are pushed to the extreme. Speaker does not insist on using heroic doses all the time, but is guided constantly by the effect of the drug, and uses large doses when they are indicated.

THE *Canada Medical Record* has changed its management. It is now owned and edited by the Faculty of Medicine, University of Bishop's College.

ABSTRACTS

MEDICINE.

Serum-Therapy.

In the *British Medical Journal* of December 7, 1895, are three reports on the antitoxin treatment. The first is by Dr. James Swain, who sums up the results of the treatment of inoperable malignant tumors by the mixed toxins of the streptococcus erysipelatis and bacillus prodigiosus.

The author says it was long known that malignant tumors occasionally disappeared after an intercurrent attack of erysipelas, and when Fehleisen discovered the specific streptococcus of erysipelas he applied pure cultures in cases of malignant tumors as an experimental treatment. Since Dr. Fehleisen's first publication many inquirers have worked in the same field, and a large number of cases have been reported in which the effect of an erysipelatos process was observed. There are two classes of cases. (1) Those in which the erysipelas was an accidental infection, and (2) the cases that were inoculated with a pure culture of the germs. The accidental infection seemed to be attended with much better results than the artificial inoculation of the pure culture; about twice as many cures being effected by the former as the latter.

Another statistical fact is that the treatment of sarcomas is much more encouraging than that of carcinomas. Bruns reports five cases of sarcoma, in which the occurrence of erysipelas resulted in a permanent cure in three. In all of these cases the diagnosis was confirmed microscopically. Cooley found that the reaction following inoculations subsided in 36 to 48 hours, unless a progressive attack of erysipelas ensued. He, therefore, concluded that the toxic products of the organisms were the active agents, and that the effects were not due to the growth of the streptococci themselves. His experiments with filtered cultures demonstrated the conclusion.

Dr. Roger discovered that the bacillus prodigiosus intensified the action of the streptococcus erysipelatis and the use of a filtrate of the mixed cultures increased the successful cases.

The inoculation of the germless filtrate had a great advantage, in the fact that the danger of an attack of erysipelas was removed.

Finally Cooley found that the use of a culture in which the germs had been destroyed by cold gave a more marked reaction than the filtered cultures. The author says the toxins of the mixed microorganisms exert a direct influence on the sarcomatous tissue.

He thinks the low vitalized cells of a malignant growth are more easily destroyed than the resistant normal tissue. The theory that sarcomas and carcinomas are bacterial growths, and that the streptococcus of erysipelas directly antagonizes them is as yet unenable.

The superficial sarcomas respond to treatment better than the deep osteo sarcomas. At the present state of the question this method of treatment is only indicated in inoperable cases. The use of serum taken from inoculated animals has been unsatisfactory.

The second article is a report of a case of cellulitis treated by Dr. Heatherby with Marmorek's anti-streptococcus serum. The patient was a boy in whose cheek a cellulitis developed from a boil. The infiltration and edema spread extensively, and several sloughing points appeared on the mucous membranes of the mouth. The ordinary surgical treatment was instituted with no benefit. The tissues when incised cut like a potato, and bled very little. In the course of three days the condition became serious. The joints were painful and pleuritic rubs were heard. When the serum treatment was begun the condition of the patient was desperate. The brawny swelling had steadily extended until it involved half of the head and neck. The conjunctiva of the right eye ruptured and the serum escaped from the orbit. There was dysphagia, and the patient rapidly became moribund. The patient received in all 44 c.cm. of the serum and the condition at once began to improve. The swelling rapidly receded; the patient became conscious and a favorable termination was expected until an exhausting diarrhea set in, followed by collapse and death. The author says death was imminent and the great improvement was due to the serum. A bacteriological examination showed the presence of staphylococcus pyogenes albus.

The third case was one of erysipelas neonatorum, treated with antistreptococcus serum by Dr. Stute. The child presented a dusky red swelling extending downward from the umbilicus over the iliac and hypogastric regions, buttocks and upper part of thigh. The edema was excessive. The umbilicus was not yet healed. Temperature was 102° and the pulse 150. Six c.cm. of antistreptococcus serum was injected. On the next day the temperature was one degree lower. The skin was not so tense, and the redness lost its definite margin. Another injection of 6 c.cm. was given followed by a rapid fading of the redness, and the skin became normal in color in spots. Recovery ensued after a third injection.

The author notes that his experience taught that erysipelas of the new born was always fatal, and he is convinced that the child's recovery was due to the serum.—EDGAR THOMPSON, M.D.

Parachlorophenol as a Disinfectant in Tuberculosis.

Spengler (*Arch. des Sciences biologiques de l'Institut Imp. de Med. exper. de St. Petersburg*, Tome IV, No. 1) has experimented with this drug, which was introduced into laryngological practice by Simanovsky in 1894. Its antiseptic powers have been proved by Karpow (*ibid.*, Tome II, No. 3) for anthrax, and it has been used as a local application in erysipelas, lupus, corneal ulcers, etc. (I) *Experiments in Nencki's laboratory*: (a) Action on pure cultivations of tubercle bacilli on glycerine gelatine. A 198 per cent. watery solution of parachlorophenol renders pure cultivations of the bacilli sterile in five minutes; fifteen experiments were made to prove this. (b) Action on phthisical sputum. The results of forty experiments showed that sputum was always disinfected by the 1.9 per cent. solution in two hours, and in one case in one hour. This longer and more variable time is explained by the difficulty with which antiseptics penetrate the mucous and albuminous substances, which are contained in sputum in various proportions. Unlike albuminous of mercury, those formed by parachlorophenol seem to keep their antiseptic power. (II) *Clinic researches in Simonovskii's clinic*: (a) Method: Solutions were prepared by melting the drug in a water bath and mixing it with glycerine in various strengths, from 5 or 10 per cent. upwards. In some cases it was applied pure by mealting it into a silver probe or absorbent cotton wool. The applications varied in intensity, according to the case, from slight pressure on the larynx up to more or less prolonged rubbing. (b) Results: Twenty-six cases of laryngeal tuberculosis were treated by parachlorophenol. Of the patients 17 were men and 9 women, of ages ranging from 22 to 56 years. All except five belonged to a very poor class living in bad surroundings. The tubercle bacillus was found in the sputum and in the secretion from the ulcerated larynx in all. The laryngeal trouble had been preceded by hemoptysis in 10, and tuberculous pulmonary lesions, severe in 16 cases, were present in every case. Of these 26 cases, 10 or about 38.5 per cent. were cured completely. In the others relapses took place either during the treatment, or later, when they usually coincided with an extension of the pulmonary lesions. Spengler does not claim that parachlorophenol is a specific, but that it cures the infiltrations and ulcerations, even when situated on the posterior surface of the posterior wall of the larynx. It is just these latter which yield with difficulty to the lactic acid or surgical treatment, and lactic acid has no action on tuberculous infiltrations. The phlegmonous inflammation sometimes occurring around the ulcers, and probably due to the secondary

infections, rapidly diminishes and disappears (sometimes after only two or three applications). Pain is relieved and the drug certainly acts as a local anesthetic far surpassing cocaine, the anesthesia sometimes lasting forty-eight hours. Local inflammatory reaction was never observed after its application. Tuberculous tumors do not disappear, but their volume always diminishes. One case of lupus of the pharynx and larynx was completely cured by parachlorophenol. To test its action on normal tissues the larynx and epiglottis of dogs were painted with the pure drug. The only result was a marked local anemia lasting forty-eight hours.—*Brit. Med. Jour.*

Heart Disease in Children.

Pott (*Fortschritte der Med.*) discusses the etiology of heart disease in childhood. Among 30,000 children he found 95 cases of heart disease, upon which he bases his conclusions. Acquired heart disease is, in his experience, never primary, but always secondary to some acute infectious disease, particularly scarlet fever and acute rheumatism, occasionally to pneumonia. In early childhood the rarity of scarlet fever diminishes its importance in the causation of heart disease. The youngest case observed was a boy, aged 3, in whom endocarditis developed in the second week of scarlet fever, leaving permanent mitral regurgitation. Rheumatic fever is the commonest cause in these earlier years, and the statements of other writers who assert the infrequency of rheumatic fever at this age are probably due to the difficulty of diagnosis causing it to be overlooked. Of 78 cases of acute rheumatism with joint symptoms, 21 were under the age of 2 years. A frequent case of heart disease in children is the so-called masked rheumatism, a vague febrile condition associated with nasopharyngeal catarrh, enlarged cervical glands, enlarged spleen, herpes labialis, and pains in the limbs, sometimes called herpetic fever. These symptoms subside under sod. salicyl., and have sometimes been definitely associated with the onset of endocarditis and pericarditis. Owing, however, to the difficulty of proving their rheumatic origin, the writer has not included such among his rheumatic cases. Congenital heart disease, not including faults of development, may be due in some cases to an attack of acute rheumatism in the mother during pregnancy; one case is quoted in which there seemed to be such a relation. Congenital syphilis in 3 cases seemed to be the probable cause of the heart lesion. The frequency of acute miliary tuberculosis in children with congenital right-side lesions is noted, and the possibility of intra-uterine tuberculosis as the cause of the heart disease is suggested, though it seems more likely that the tuberculosis is favored by the heart disease.—*Brit. Med. Jour.*

Infant Feeding.

Sir William Priestly writes in the *British Medical Journal* his observations in the various Parisian children clinics while on a visit to the French capital. He says he was especially interested in the clinic of M. Budin, where experiments were being made to determine the relative value of the many methods of feeding the new born.

The early days of life, with their very uncertain vital tenure, demand the greatest attention on the part of the physician. He should control the management of the new born and not trust it to the unscientific floundering of an opiated nurse. The author says that any contributions designed to promote this question, which is so dear to the household and important to the State, must be welcomed by all.

All are aware of the universally high mortality of the first year of life. A large percentage of this mortality is preventable and it is the duty of medical men to determine how these deaths can be prevented. When one observes the bad hygienic surroundings in which the majority live, and the profound ignorance of the common rules of infant feeding, is it a wonder that any survive? Sadly, many who do live, emerge with an enfeebled growth and produce a degenerate family.

The author says that a large number of infantile diseases have their origin in the application of the prevailing fallacy that the child must have some sort of farinaceous food, and that the food is not nutritious unless it has a thick consistency. All those competent to judge know that some form of animal milk, without any starchy addition, is the ideal infant food. Consequently the only question to solve is to find what milk is the best substitute when the mother is unable to suckle her child.

The greatest difficulty in artificial feeding is to preserve the milk free from infection by the bacilli, spores, etc., which are always floating in the air. Milk is a good culture-medium for all germs and a very short exposure will infect it with sufficient micro-organisms to cause the gastric and intestinal inflammations which are responsible for a great majority of infant fatalities.

The author says he can not too strongly second the conclusions of Budin and Chavane, that mothers milk by suckling is the only safe method of infant feeding. If this, for sufficient medical reasons, is impossible, a wet nurse should be sought before a recourse to hand-feeding is considered. There is another danger in artificial feeding aside from the infection with ordinary air-born germs. It has been found that the various zymotic diseases are transmitted by the use of infected milk, and, as a general domestic sanitary measure, milk should be boiled before use. But there

are two objections to boiled milk as an infant food: the boiling gives to the milk a very disagreeable taste and it coagulates the casein, rendering it indigestible for a weak stomach. M. Budin has devised a method of sterilization by heat which is free from all objections. He found that milk, owing to its containing a large amount of solids, boiled at a higher degree of temperature than water, and he heats the milk in a water bath for 40 minutes without altering its taste or digestibility, while all organisms, which may be present, are destroyed. The apparatus consists of several bottles, each holding enough milk for one meal, placed in a pan of water. The bottles have valves in the corks so adopted that the vapor can escape, but no air is allowed to enter from without.

The author cites M. Budin's investigations which demonstrate that the dilution of cows' milk before feeding to the child is unwise and unsafe. The best interest of the child are much better favored by giving small quantities of properly sterilized pure milk than the same amount diluted.

A regular weighing of the child is the only way to accurately ascertain its well being and progress. In the French hospitals the babies are weighed daily. By this diurnal record a slight indisposition can be detected and the more serious complaints can be anticipated in their incipency.

The experience in the Continental hospitals has shown that the greatest source of infant mortality lies in infected milk. Many cases of persistent diarrhea spontaneously recover when the constant irritation of impure milk was removed by the substitution of sterilized food.—EDGAR THOMPSON, M.D.

Influenza

De Renzi (*La Clinica Moderna*) says it is now possible to say that there can be no infection without Pfeiffer's bacillus. According to Pfeiffer, this microorganism is only present in the bronchial secretion. It may be found in the sputum even after it has undergone some degree of desiccation, but the moist secretion is the chief medium of transmission. The influenza bacillus has also been found in the lungs in influenza pneumonia; but it is possible to have a secondary infection there, as by the streptococcus or diplococcus. Influenza may be divided into the nervous and catarrhal forms, but these forms may be combined. Unlike other acute diseases, a disproportion may exist between the temperature and the pulse, the former being high while the latter is infrequent. The most common nervous symptoms are intense headaches, often having the character of hemicrania. It is especially situated in the forehead, in and behind the orbit, and in the temple. It is oc-

asionally as severe as in meningitis. Pains may be present in other parts, as in the course of the nerves, in the joints and muscles; they are aggravated by movement. The pain referred to the nucha is, in the author's opinion, so frequent as to be almost characteristic. At times the most grave nervous symptoms may be present simulating meningitis. Sometimes influenza produces a true meningitis or an encephalitis. Prostration is most constant. Occasionally mental affections appear during convalescence; they are usually of short duration, and end in recovery. Neuritis is sometimes seen. Some neuroses—as hysteria, neurasthenia, epilepsy, chorea—have followed influenza. Various catarrhs may occur in influenza. In influenzal broncho-pneumonia the prostration with rapidity of breathing is characteristic; there is but little alteration in percussion. The sputum may be bloodstained. Hemorrhages from mucous surfaces are occasionally seen. Gastro-intestinal symptoms occur. The attack of influenza is most short. The author advises against the use of antipyrin in influenza. He speaks highly of the use of salipyrin and of quinine. If pneumonia supervenes, considerable quantities of alcohol may be required.—*Brit. Med. Jour.*

OBSTETRICS AND GYNECOLOGY.

Dystocia Caused by Rigidity of the Cervix; Retention in the Uterus for Four Days of a Decapitated Head.

Osmont and Chottard (*Arch. de toc. et de gyn.*), report the case of a woman, aged thirty-two, in her second labor. The first one occurred three years before without difficulty. On examination, Dr. Chottard found a shoulder presentation, acromion in right iliac fossa, anterior; by external manipulation he performed podalic version, and grasped a foot through a cervix dilated to the size of a silver dollar. Extraction was continued until the trunk was delivered, when he heard a slight cracking noise; on making a second effort at traction, the crackling occurred again, and to his surprise the trunk came away in his hands, leaving the head in the pelvis, separation taking place at the foramen magnum. Failing in his efforts to grasp the head, he sent for Dr. Osmont, who examined the patient and found the uterus firmly contracted about the inclosed head, situated high in the pelvis above the brim, the antero-posterior diameter of brim being eight and a half centimetres. The cervical canal admitted one finger. The external surface was studded with slight elevations, about one centimetre in height, arising from the cervical wall.

There was also an alastic band about two centimetres long. The fetal head could be felt higher up in the uterus. Dr. Osmont considered the cervix in a state of spasmodic rigidity. As the patient had a "little fever," slight chills, and a fetid discharge, he gave a hot carbolic douche, and endeavored by means of his hand, without an anesthetic, to dilate the cervix and draw down the head, but, owing to the condition already described, it was found impossible to dilate the cervix. He next introduced a Champetier's balloon, and distended it with two hundred grammes of water. This was compelled two hours later, and again introduced and distended with three hundred grammes of water. This remained *in situ* for twelve hours with no pains. After another unsuccessful attempt to extract the head by the fingers without an anesthetic, Dr. Chottard chloroformed the woman, and Dr. Osmont passed his hand up to the uterus and seized the inferior maxillary bone with his index finger, which tore away from the skull. This last failure so discouraged Dr. Osmont that, in his own words, he "abandoned the game" and directed that antiseptic intra-uterine douches be given frequently under Dr. Chottard's direction. On the third day from the commencement of labor the woman expelled the fetal brain, and the next day the cranium and placenta, which was putrefactive. She rallied until the twelfth day from the beginning of labor, when she was seized with a chill and high fever, and died from hemoptysis. Dr. Osmont, in reviewing the case, concludes that the rigidity of the cervix was pathological and not spasmodic, as he at first thought; he thought that an attack of metritis which the patient had after her first childbirth might have been a factor in causing cicatricial tissue in the cervix; to support this view the cranial bones were piled against each other so as to occupy four and a half centimetres in width by fourteen centimetres in length, which is about the same-sized space as that offered for extraction. Under the circumstances, he thought he was justified in leaving the case to Nature after his efforts at extraction had failed.—*American Gynec and Obstet Journal*.

NOTES : AND : ITEMS

THE EGYPTIAN ORIGIN OF MANY MODERN JOKES is well known. The Egyptian origin of many medical recipes has recently been demonstrated by Prof. Georg Ebers (*Med. Rec.*). Old medical recipe books, both English and German, contained, down to the very end of last century, the formulæ, if they may be so termed, of remedies which are found in ancient Egyptian papyri. The problem is, how did these

prescriptions find their way from Egypt to Europe? Clearly not through the Greek writers, since their works contain nothing of the kind. Ebers suggests that they were handed down by the famous old school of Salerno. The teachers in that school are known to have been acquainted with the Egyptian medicines through Coptic and Arabic translations. One of the most celebrated of them, Constantinus Africanus, had visited Egypt, and he "conveyed" a good deal of the medical lore which he learned there into his own writings. Ebers gives a number of examples, showing how recipes for eye lotions, methods of treating prolapse of the womb, predicting the sex of an unborn child, etc., which appeared in old English and German books, could be traced back to Egyptian sources.

ARTIFICIAL HUMAN MILK.—A Berlin physician has devised what seems to be a rather novel method of imitating the mothers' milk. Cow's milk is fermented by means of rennet, and the whey thus obtained is carefully sterilized, and then enriched, as required by different individuals, by the addition of cream.—*Medical Record*.

MEDIEVAL GYNECOLOGY.—Dr. W. S. Robertson gives (*Edinburgh Medical and Surgical Journal*) the following description taken from the works of Father Mayster Alexis of Piemont, who lived in the latter part of the sixteenth century. The tampon and postural method were evidently well known at that time: "To heale a woman that has the matrice out of her natural place. Take a flint stone that hath been alwaies in the earth and not taken the aire, and put it in some basket covered in a great fire, and when it is verie hotte put it in a little tubbe or barrell, and wet it with vinegar cast upon it, and cause the woman to stand over it to receive the smoake or parfume of it, and then let her goe to bed. Ye shall after this take the juice of Rue and make a little rounde ball of cotton, whereunto ye shall tie a threede, and then dippe the said ball in the said juice of Rue, and put it into the mouth of the matrice, the whiche will incontinent take the ball and drawe it in, and then it will return into his natural place again. But you must binde and tie the ball sure and well, least peradventure it should remaine within. After this an ointment is to be applied to the reynes of her backe, and laye hotte towe upon it, and then swaddle her as women do young infantes. And so she must be laied in her bed with her bellie upwarde and her heade lower than her buttockes. This must ye doe from night to night three times and she shall be healed. She must also eate hot things in operation, as pigeons and hennes, with spices and other like things.—*Medical Record*.

MEDICAL REVIEW.

A WEEKLY JOURNAL OF MEDICINE AND SURGERY.

VOL. XXXIII.

ST. LOUIS, FEBRUARY 15, 1896.

NO. 7.

ORIGINAL ARTICLES

The Significance of Hair in Forensic Medicine.

BY DR. CHAS. O. CURTMAN,

Read before the St. Louis Medical Society, January 11, 1896.

[CONCLUDED]

The *hair of the beard* (*Julus*) see Figs. I, II, III and IV is considerably thicker than that of the head of the same person. Its mean average diameter is 0.150 mm. Sometimes its bulb is smaller than the shaft, occasionally they are connected by a thin, curved middle portion, but often the diameter remains the same from bulb to shaft. A transverse section which may readily be obtained, by quickly repeated shaving, is rarely circular, but shows polygonal, rounded forms, see Fig. IV. Thin ribbon-like hairs yield an oval section, sometimes with the thicker ends like dumb-bells.

The *hair of the mustache* (*mystax*, Fig. XXI) when recently torn out, shows the root surrounded by a thick sheath, which contains a small bulb and often a thin bent middle piece. The shaft is about 0.140 mm. in diameter, in the cylindrical parts, but spreads in the ribbon-like parts to 0.80 mm., and frequently ramifies, forming two or more terminations.

Hairs from the nostril (*vibrissae*, Fig. XXII) having a diameter of 0.080 mm.; those from the *eyebrows* (*supercilia*, Fig. XVI) 0.120 mm.; from the *eyelid*, (*cilia*, Fig. XVII) 0.040 mm.; and from the *ear* (*tragi*, Fig. XXIII) are not frequently the objects of examination.

Hairs from the axilla (*glandebalae*, Figs. VIII and X), are more deserving of attention, on account of their resemblance to the *hairs of the pubes*.

Glandebalae have a mean average diameter of about 0.150 mm. in the cylindrical part of the shaft. In the male they are thicker in the female thinner and

in both somewhat shorter than the pubic hairs of the same person. Frequently they have flattened, broader portions alternating with more cylindric ones in the same hair; also swollen patches of epidermis, a state most likely caused by the constant moisture of the axillary region. They end in a long tapering but not very sharp point. In color they are generally less dark than the capilla. The plates of medullary pigment I have found black only in negroes, those of other races having a lighter pigment even where the head is black. The thin middle piece between shaft and bulb is more frequently found in the *glandebalae* than in the pubes.



FIG. XXIII.—Tragus. 15 diam.

The *hairs of the pubes* (Figs. IX, XIV, XV, and XVI) show the difference in sex still more plainly than the capilli. Those of the male are much thinner, 0.110 mm. than those of the female, 0.150. In the hair of the male, on pulling out, a thicker root-sheath remains as envelope of the bulb than in the female, but when rendered transparent, the envelope shows a smaller bulb in the male than in the female. A thin middle piece between bulb and shaft is but rarely found. The epidermis is frequently enlarged in patches and the alternation of cylindrical and flattened portions is often observed in connection with curling.

The roots of female hairs are generally short and of same diameter as the shaft, and remain intact when pulled out. In young persons of both sexes the

diameters are somewhat smaller than above stated. The ends mostly terminate in a club-shaped form on the mons veneris, but on the labia majora fine points are often found. Ramifications occur more frequently in the male than in the female.

The *hairs of the scrotum* of older men have longer and thinner roots, inserted into deep follicles, and are not easily pulled out without breaking off the root. In younger men the root is thicker, but also much shorter and may therefore be more easily removed from the follicle.

Hairs of the thigh (Fig. XIX) and of the *perineum* (Fig. XX) usually have a club-shaped termination.

It was impossible for me to collect a sufficient abundance and variety of material to make an exhaustive study of the difference in the hairs from the different races. The hair of the negro is characterized by the curly and ribbon-like capilli, which are so penetrated with black pigment as to be entirely opaque. The transverse section is most frequently oval and the different layers can hardly be made out. Thinner lanugo-like and coarser hair grow in closest proximity on the scalp.

In regard to the identification of the hairs of various species of animals I repeat that such examinations should only be made with the aid of well authenticated objects for comparison. Higher powers of the microscope must often be used, and chemical reagents employed to differentiate the internal structure. In black and very dark hairs diluted nitric acid is of great service in clearing up the tissues and permitting the observation of the inner layers. For the examination of the superficial layers alone would often lead to wrong conclusions, and reliance on the measurement of the diameter is met by the difficulty that, in animals more often than in man, hairs of different thickness grow in close proximity. Hence, it is very difficult to establish averages of measures of diameters and next to impossible of those of length. Very likely this is caused by the periodic change of hairs, which in some animals occupies a short time, but in others occurs so gradually, that hairs of different periods of growth are found close together. This difference is especially frequent in dogs, but is also found in other animals. Possibly the largest hair is in such case to be considered the normal full-grown one, but this is by no means certain, and we are never sure that the few hairs, furnished to us as a specimen, contain the largest size as well as the smallest, and we should keep in view such uncertainty.

In the following table I have attempted to give as fair a representation of the average measure of thickness of hairs of various animals. Where it is not otherwise stated, the specimens were taken from the shoulder of the animal, which generally are fair representatives of the rest of the hair of the body, ex-

cepting those of the mane and tail, and the tactile hairs of the mystax.

MILLIMETERS.

Sheep, domestic.....	0.025 to 0.050
Sheep, merino.....	0.012 to 0.030
Lamb, domestic.....	0.021 to 0.041
Cow.....	0.100 to 0.121
Horse, shoulder.....	0.071
Horse, tail.....	0.214
Horse, Shetland pony.....	0.043 to 0.050
Hog, shoulder.....	0.200
Hog, back.....	0.270
Dog, Newfoundland.....	0.022 to 0.115
Dog, Setter.....	0.058 to 0.093
Dog, Silk Terrier.....	0.029 to 0.036
Cat, shoulder.....	0.073
Cat, mystax.....	0.210
Mouse.....	0.015 to 0.028
Rat.....	0.071
Rabbit.....	0.022 to 0.070
Raccoon.....	0.023 to 0.098
Icebear.....	0.025 to 0.066

Hairs of the dog are quite difficult to identify, not only on account of the difference of diameter, already mentioned, but on account of the difference of structure found in different races of the animal. See Figs. XXIV, XXV, XXVI and XXVII.



FIG. XXIV.—Silk Terrier, yellow. $\times 15$ diam.



FIG. XXV.—Newfoundland, black. $\times 15$ diam.

In the races with long, curly hair we find the root globular (Figs. XXIV and XXV) often with curved middle portion between bulb and shaft. The medulla, filled with pigment, of moderate width, reaching with a sharp tapering point down near to the papilla. In the races with straight, short hair (Figs. XXVI and XXVII) the root is long-stretched, resembling a carrot, with numerous prickly excrescences attached to the closely adhering sheath. A thin middle piece is rarely observed. The medulla here also terminates towards the papilla in a long, tapering point of pigmentation, but sometimes comes to an abrupt square termination. In mixed breeds of dogs both varieties of hairs are found. Under a higher power of the mi-

roscope the pigment plates show sharply defined parallel surfaces at right angles to the axis. The cortical layer is of moderate thickness and shows the longitudinal fibres plainly. The end of the hair forms a sharp tapering point. In the spitz-dog the white hair contains within the opaque white cortical layers



FIG. XXVI.—English Setter, brown. $\times 15$ diam.



FIG. XXVII.—Bull dog, yellow. $\times 15$ diam.

very darkly pigmented medulla. In a bundle of hairs taken from the shoulder of a Newfoundland dog I found five different sizes of hair with diameters of: 0.022 mm., 0.050 mm., 0.073 mm., 0.086 mm., and 0.115 mm. In other varieties the specimens did not differ quite so much, but most generally there were different sizes among them.



FIG. XXVIII.—Cat. $\times 15$ diam.

The hairs of the cat (Fig. XXVIII) are generally of much more even thickness than those of the dog and vary but little from the mean average of 0.073 mm. The point is sharp and tapering, the root somewhat spherical with moderate thickness of bulb and a thin middle piece, rarely curved, between bulb and shaft. The medulla is thick often occupying the larger portion of the shaft, so as to leave only a very thin cortical layer. Towards the papilla it terminates in a long tapering pigmented point. The pigment plates are not, like those of the dog, enclosed between parallel surfaces, but are full of rounded protuberances, so as to show very characteristic con-

figurations, which, together with the thin cortex, make the identification of cat hair easy.

The mystax hairs of the cat are stiff and sharp pointed and of about three times the diameter of the hair taken from the shoulder.

The hairs of the mouse, (Fig. XXIX), are about 0.015 mm. to 0.028 mm. in diameter, and show a peculiar tessellated arrangement of the pigment plates, which render their recognition easy.

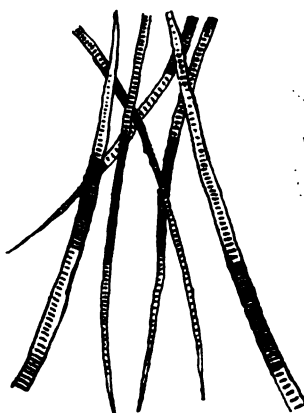


FIG. XXIX.—Mouse. $\times 60$ diam.



FIG. XXX.—Rat. $\times 15$ diam.

The hairs of the rat (Fig. XXX) are much thicker than those of the mouse and show a tessellated arrangement of the pigment, similar to that of the mouse. They separate easily into longitudinal strips, which in the ramified hairs emerge from the main trunk. A covering with dark epithelium is sometimes found to surround these strips in patches, so as to give to those hairs a spotted appearance.

The hairs of the horse, taken from the shoulder, have an average diameter 0.070 mm., and resemble those of the cat in the great thickness of the medulla, and the very thin cortical layers enveloping it. (See Fig. XXXI). Those of the mane and tail are of about three times the thickness of the shoulder hair. The latter have a long root, which, on being made transparent, shows a more or less spherical bulb within the sheath. A thin middle piece between shaft and bulb was only observed by me in the Shetland pony. A characteristic feature is the great thickness of the pigmented medulla, which occupies nearly the whole width of the hair, leaving room for only an exceedingly thin, transparent cortical envelope. In spotted horses, near the place where the color changes, I have found hairs which contained islands of pigmented medulla alternating with colorless intervals. The pigment plates have flat parallel borders, at right angles to the axis of the medulla, and are thus easily distinguished from those of the cat, which show irregular protuberances.

The hair of the cow (Fig. XXXII) generally shows

a greater thickness than that of the horse, and measures from 0.100 mm. to 0.121 mm. The pigmented medulla occupies about one-half of the diameter, seldom more. The roots show round bulbs with a colorless middle portion, which is but little thinner, than the shaft. The medullary pigment descends from the shaft towards the papilla with an abrupt blunt termination, leaving a considerable space without pigment.



FIG. XXXI.—Horse.
× 15 diam.

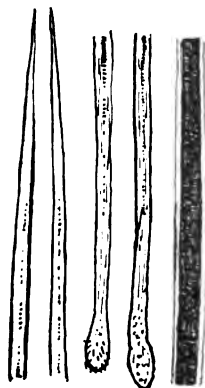


FIG. XXXII.—Cow.
× 15 diam.

The pigment plates are wedge-shaped. The point of the hair is straight and sharp. When rendered transparent, the epidermic cells remain somewhat more conspicuous than they do in the horse or dog, but are not nearly so plainly seen as in wool. The hair of the tail has about double the thickness as that of the shoulder.

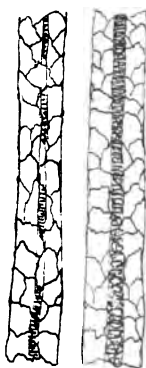


FIG. XXXIII.—Sheep, Merino.
× 45 diam.

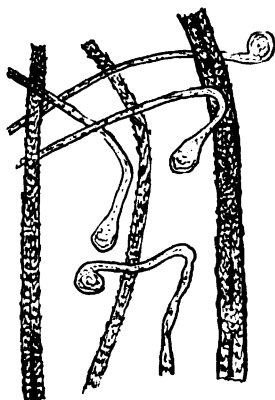


FIG. XXXIV.—Lamb, Domestic.
× 15 diam.

The hair of the sheep, wool, (Figs. XXXIII and XXXIV) is readily recognized by the strong development of the cuticula, the outlines of whose cells are very conspicuous even when the hair is rendered transparent. The prominent margins of the epidermic cells afford the possibility of "felting" in a remarkable degree. In thickness sheep's wool varies

much, according to breed and somewhat less according to age. In the domestic sheep I found 0.025 mm. to 0.040 mm. as the average limits of thickness in the same individual, but occasionally a hair of 0.060 mm. occurred on the hips. In a lamb of one year the diameters ranged from 0.021 mm. to 0.041 mm. (Fig. XXXIV); in the merino sheep in the diameter ranged from 0.012 mm. to 0.030 mm. The roots have large globular bulbs with long, thin, curved middle pieces. The shaft has a thin medullary axis, in which, even in white hair, a dark pigment is found, often in colored islands, alternating with colorless spaces.

The hairs of the hog, (Fig XXXV), are quite stiff and thick, even when taken from the shoulder, where the average diameter is 0.200 mm. The bristles of the back are still thicker, 0.270 mm. in our domestic breeds, and, considerably thicker in some foreign



FIG. XXXV.—Hog. × 15 diam.

breeds. The point is sharp, with a long taper and somewhat curved. The pigmented medulla occupies the larger portion of the shaft. The root is short, with a globular bulb and without a thin middle piece.

The hair of a number of other animals is used for the manufacture of felt for hats and other articles of clothing. Other animals furnish fur, which is used adhering to the dressed skin, in fur cloaks or various other articles of wearing apparel. Such articles, or the hair detached from them, occasionally become objects of interest and investigation in the courts, and require identification. It would lead too far to enter upon a description of such or of the hair of other animals forming the objects of the chase. A few, of which I was able to procure good specimens, are briefly mentioned below. In all such investigations well-authenticated specimens for comparison are an indispensable requisite for a successful identification, and there should be not only a study of the outer form, and measure under the microscope, but that of their behavior with chemical reagents should go hand

in hand with the microscopic observation, so as to reveal the internal structure.

Hair of the rabbit (Fig. XXXVI). The fine fur averages 0.022 mm. in thickness, the thicker hairs about 0.070 mm. Even short fragments show a cork-screw-like appearance, similar to cotton fibres. The transverse section shows it to be flat, sometimes with thicker margins.



FIG. XXXVI.—Rabbit. $\times 30$ diam.

The *hair of the icebear*, (Fig. XXXVII), is from 0.025 mm. to 0.066 mm. in thickness. Though perfectly white, it shows when rendered transparent, a

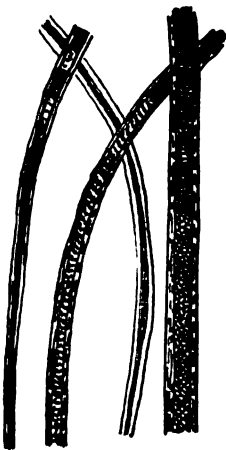


FIG. XXXVII.—Ice-bear. $\times 30$ diam.

very broad dark-colored medulla, whose pigment bodies are of irregular size and shape, mingled promiscuously.

The *hair of the raccoon* averages from 0.023 mm. to 0.098 mm. in thickness. The pigment plates in the broad medullary layer are of great thickness.

The *hair of the bat* may be recognized even under low powers of the microscope by the prominent points projecting from the margins of its epidermic cells alternating on opposite sides, so as to give a zig-zag appearance. In some foreign varieties of the bat tribe these prominences are ramified so as to become quite

ornamental. Hence specimens of these hairs are frequently found in collections of microscopic objects.

The peculiar *hair of the ornithorhynchus* (Fig. XI) has already been referred to. Upon cylindrical or slightly conical shafts it bears long spear-shaped flat blades and yields very different cross sections in different parts of the same hair.

The *state or condition of the hair* is often of great importance in criminal cases, when the question arises whether a hair has fallen out by natural decay, or been torn out by violence. Whether, if severed, it has been torn by a pull, or cut by a sharp or bruised by a blunt instrument. Even in this case careful examination can give light.

Hairs fallen out from natural causes have severed their connection with the papilla by natural decay. Sometimes the root is completely atrophied and shrunken, so that the sheath is stripped off in leaving the follicle and often the bulb has loosened its embrace and left the papilla behind. The root of such a decayed hair never shows the pointed fragments of the sheath which adhere to it when *torn out*. A hair whose bulb is surrounded by the ragged fragments of the sheath, always points to *violence in tearing out*.

Hairs cut off lack the root end and show instead a smooth, cut surface, if cut with a sharp instrument, without protrusion of the medulla. *Hairs torn through* show an irregular surface of separation, from which the cortical fibres project singly or in bundles. *Hairs bruised off* frequently show a protrusion of the medullary axis, in addition to the general appearance of laceration of the separated parts.

As will be seen from the foregoing, much information may be gained from the careful study of hairs. To arrive at correct conclusions, it is necessary to devote much time to the investigation of the characters of a variety of hair and to practical training in the methods of examination. To the amateur the subject is interesting enough, and may afford a pleasing pass-time for a leisure hour. But no one should venture to give a definite decision, affecting grave interests, who has not thoroughly familiarized himself with the subject, so as to be fully aware of the difficulties and in ready command of the means to overcome them.

The Dietetic Treatment of Chronic Heart Diseases.—Glax (*Wien. med. Presse; Ctbl. f. innere Med.*) says that for fifteen years he has insisted on the importance of restricting the amount of liquor ingested by patients with heart disease. Such a restriction, he says, often alone suffices to bring about compensation, and in many cases in which such drugs as digitalis are beginning to lose their power it is restored by making the liquid ingesta correspond to the excretion. —*New York Med. Jour.*

MEDICAL REVIEW.

EDITORIALS

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PUBLISHED UNDER THE AUSPICES OF THE
MEDICAL REVIEW ASSOCIATION

By O. H. DREYER.

YEARLY SUBSCRIPTION, \$3.50. SINGLE COPIES, 10 Cents.

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Nature as a Disinfectant.

It is a well-known fact that some pathogenic bacteria exert their influence as disease producers only when they have been subjected to conditions of existence favoring the development of a certain degree of virulency and that this is the reason for the insufficiency of some artificial prophylactic disinfecting measures as far as the prevention of future infections is concerned. We are not surprised to observe the pronounced trend in the views of noteworthy bacteriologists regarding the probability of the majority of saprophytes being capable of displaying pathogenic properties under conditions favoring the production of such a metamorphosis.

Some naturalists are even going so far—and their views are certainly based upon the observation of Nature and logical deductions—as to claim that all “so-called” pathogenic organisms are saprophytes which have changed their form or other biological characteris-

tics in harmony with the altered conditions of surroundings; or, that they represent a stage of development of plemorphous organisms and that bacteria only become pathogenic when the access to or use of the great natural disinfectants, viz., sunlight, pure air and pure water, is more or less deficient, or the vitality of the tissues lowered to such an extent that saprophytes readily overcome their means of defense.

There are certainly not a few examples that substantiate such arguments. The exposure to air changes the diphtheria bacillus into an innocuous organism; the pneumococcus becomes pathogenic only upon certain tissue changes produced, for instance, by the rapid exposure of an individual to changes in temperature and humidity of the atmosphere. The first example illustrates the change in the bacillus in consequence of altered surroundings; the second, the effect of a change in the nutritive soil causing with the assistance of pneumococci—which are always present in the mucus of the respiratory tract—a pneumonia or a meningitis.

The great lesson taught by these two examples indicates the direction in which preventive medicine may expect to be successful, namely, (1) in the improvement of the soil—of the resisting power of the individual; and, (2) in studying the natural elements or forces by which pathogenic bacteria are either destroyed or changed into a saprophytic form of existence. Light, pure water, and in a measure, pure air—these agencies are universally recognized in the maintenance of health and as prophylactic factors; they are more effective in preventing disease than the attempt of destroying pathogenic germs by artificial disinfection. Saprophytes as well as their pathogenic relatives, descendants or ancestors, will continue to exist; in fact, they appear to be an exceedingly necessary part of Nature; without them there would be no chemical disintegration and change of matter, which would soon exhaust the necessary elements for maintenance of life. The presence of bacteria is a necessity; a task of the human race to solve is to determine the conditions under which bacteria exist as saprophytes and those which convert them into pathogenic varieties. These conditions may be due, as above indicated, to influences acting upon the bacteria or upon the soil (the human body, for instance) on which they grow.

Obscene Newspaper Articles.

There is a saying that “everything is pure to the pure” and there is no doubt much truth in it; but upon close scrutiny this saying is, in many cases, when carried into practice, exceedingly fallible or, at least, is not applicable to many newspaper readers. That there are many persons with pure minds reading—for they can not avoid it—articles of a more or less obscene nature without being in the least affected, with regard to morals, is a fact which every thinking person has an opportunity more or less frequently to experience. It

is the intelligent, well educated, intellectually and physically active reader, who views everything objectively and analytically, whose imaginative power has a healthy, sensible and not a morbid tendency.

But it must also be admitted that many newspaper readers are—by improper intellectual or moral training, or by a morbid sensuality, by physical defects or a pathological condition of nervous system, which may be inherited or acquired—unfit subjects for the mental appropriation of the highly colored, exaggerated or misrepresented newspaper accounts of occurrences among the most debased and morally filthiest members of the human race. Some of the papers seem to delight in a minute and detailed description of the happenings among people who hold the lowest place in society in the point of morality. Why do the papers print sensational articles revealing examples of the greatest moral depravity? Undoubtedly because they expect an increased sale and in order to please the taste of some readers; they forget the responsibility which rests upon them in influencing them for good or evil.

For the physician, the lawyer, and, in a measure, the minister and priest, it is a necessity to be made acquainted with all the various forms of moral depravity; no matter how distasteful the acquisition of such a knowledge may be to them. The physician often perceives at a glance the morbid cause of instances of this character and views them as manifestations of a pathological nature. Editors of newspapers should possess some knowledge of physiology and psychology in order to understand the harmful effects of suggestion upon morbid minds and impressionable natures possessing the predisposing elements for moral degeneracy. If editors of the daily press were thus educated they would be more apt to see to it that long columns of sensational and detailed accounts of incidents of moral depravement would not appear under their management and that such articles, if they have to be written, are related in a manner less harmful to the kind of individuals referred to. Recently an article appeared in one of our St. Louis daily papers possessing in a high degree the objectionable features under consideration. An individual of twenty-eight years, supposed to be, according to the papers, of dual sexuality, exhibited herself to the students of the various medical colleges, an action which, under the guidance of a teacher, and under exclusion of junior students, nobody can object. But the individual, probably a female, judging from the accounts in the papers, also exposed her person to the uneducated laymen. Why such a fact should be related in great detail and the careful and conscientious relation of all sensational incidents, it is difficult to guess, excepting that, as already indicated, the newspaper men know that sensational articles of this nature are in demand among the readers.

It is a practical impossibility to keep the daily papers kept for the family from being read by live and inquisitive children, boys or girls, and it is therefore the duty of parents not to encourage the publication of sensa-

tional papers by subscribing for them, no matter how cheap they may be, and keeping them in their families.

A New Dispensary.

We have been informed that St. Louis has added another to her numerous dispensaries, which is intended for the purpose of clinical instruction. Its location is opposite the City Hospital, on Linn Street and Lafayette Avenue.

A New Hospital for Women.

St. Louis will soon have another hospital which will be used exclusively for women: The Josephine Hospital. The ground for the building has been broken; the location, Grand Avenue, near Lafayette Avenue, could not have been better selected; for it is one of the highest points in the city. The building will consist of a basement and three stories and a gable roof.

We have been informed that it will be a modern, surgically clean hospital, with a delivery room separated from the wards. The operating room is to be on the third floor; an elevator will connect the different floors. The Hospital, together with an endowment fund, is the gift of a charitable St. Louis lady.

The Marriage of Dr. Riesmeyer.

Dr. Louis Theodore Riesmeyer, the editor of the REVIEW was happily united in marriage to Miss Marguerite Curtis Wednesday evening, February 12, at the Episcopal Church of the Redeemer, this city, in the presence of a large and interested congregation of relatives and friends, to all of whom Dr. and Mrs. Riesmeyer will be "at home" after March 15th, at their new residence, 2838 Lafayette Avenue.

Dr. Riesmeyer has for many years been identified with the interests of higher medical education in St. Louis, and since he has assumed editorial control of the REVIEW he has, by his ability, congenial to the work, and by a great sacrifice of time increased the prestige and extended the general usefulness of the journal.

The Doctor was the recipient of many congratulations from his large circle of professional friends and to him is extended the sincerest well wishes of his literary and typographical associates, with whom his relations are most cordial.

E. T.

Prof. Roentgen's Invention.

Many articles have appeared in the daily papers and scientific journals regarding a new process of photography in which it is claimed that, in consequence of the passage of certain newly discovered rays of electric

light through all materials of a purely organic nature, this new invention, made by Prof. Roentgen, of Würzburg, will be serviceable in diagnosing disease and locating bullets in the body. These rays make structures visible, which have heretofore been impossible to see by any method. How much truth or fiction there may exist in the reports of the new discovery it is at present hard to determine; but judging from a reproduction of a photograph, in the *Brit. Med. Jour.*, of a human hand which is to show the outline of the bony skeleton we must say that the soft parts of the hand do not appear as transparent in the cut as some reports on the subject would lead us to suppose. The invention has possibly been prematurely published; hence the exaggeration of the newspapers, in spite of which it seems to promise great possibilities. It is to be hoped, however, that the glowing reports will be realized; but, as already stated, the illustration referred to is somewhat discouraging, which may not, however, detract anything from the scientific value of the invention, although its practical application may be more limited than some descriptions of the discovery appear to promise.

BOOK : REVIEWS

Books reviewed in this column may be obtained, post-paid, by addressing the publisher of this journal, and remitting the quoted price.

Twentieth Century Practice. An International Encyclopedia of Modern Medical Sciences. By Leading Authorities of Europe and America. Edited by THOMAS L. STEDMAN, M.D., New York City. In Twenty Volumes. Volume VI. Diseases of the Respiratory Organs. New York: William Wood & Company. 1896. Price, Cloth, \$5.00; Leather, \$6.00.

The series of volumes to which this work belongs needs no introduction to the readers of the REVIEW. The regularity with which these volumes have heretofore appeared is one of the characteristic and commendable features of the work. The publishers state that it was found necessary to print the sixth volume before the fifth in consequence of delay in the receipt of manuscript, but that the fifth volume, treating of the "Diseases of the Skin," will appear next in order.

The sixth volume of this great work is fully the equal of the preceding parts, whose excellent qualities have been pointed out on former occasions. The opening article treats of the diseases of the nose and is from the pen of Dr. Professor James, of London, the possessor of a graceful literary style, who has given us one of the most readable articles in the book. Following this is an article on the "Diseases of the Accessory Sinuses of the

Nose," by Dr. Jonathan Wright, of Brooklyn. Two articles, one on "Diseases of the Naso-Pharynx and Pharynx" and the other on the "Diseases of the Tonsils," are by Dr. E. J. Moure, of Bordeaux who is recognized as the leading French authority on affections of the upper air passages. Dr. A. H. Buck, of New York, treats of "Diseases of the Ears" in his usual clear and easy style. Proceeding downward, we come to the "Larynx," the diseases of which are handled in a very satisfactory manner by Dr. F. H. Bosworth, of New York. All of the affections of the upper air passages just mentioned are treated from the point of view of the general practitioner rather than from that of the specialist. Sir Thomas Grainger Stewart and Dr. George A. Gibson, of Edinburgh, have written in collaboration upon the "Diseases of the Trachea and Bronchial Tubes," the result of their combined labors being an excellent treatise on the pathology and treatment of these harassing complaints. The author of the concluding article is Dr. Winslow Anderson, of San Francisco. His subject is the "Diseases of the Lungs," except Tuberculosis and Croupous Pneumonia, two affections which will be considered in a later volume along with the other infectious diseases.

The general make up of the work, the illustrations, print and binding, the practical arrangement of subjects as well as the text in general make this volume a true representative of the "Twentieth Century Practice of Medicine" series.

CORRESPONDENCE

Requisite for Membership to the Missouri State Medical Association:

Editor MEDICAL REVIEW:—Allow me through your journal to call the attention of members of the medical profession of Missouri to Article III, Constitution of the Missouri State Medical Association, which reads as follows: Members of this Association shall consist of the classes, to-wit:

1. Delegates.
2. Honorary Members.
3. Members by Invitation.

4. Permanent members. From which it is obvious that a physician not entitled to membership under the last three heads, *must* be a delegate from some local society to become a member of the Missouri State Medical Association.

To increase the attendance and membership of the State Association it is urgently suggested that physicians living in counties and districts where there is no medical organization, proceed at once to organize local medical societies in harmony with the Constitution and By-Laws of State Association and the Code of Ethics of the American Medical Association. By this means

the usefulness and good influence of the State Association can be extended and its membership greatly increased.

It is earnestly desired that every portion of the State shall be represented at the next meeting of the Missouri State Medical Association.

In view of the tone and numbers of the medical profession of the State, there is every reason why the Missouri State Medical Association should occupy front rank among medical organizations. To this end the cooperation of every regular physician throughout the State is solicited.

Copies of the Constitution and By Laws of the Missouri State Medical Association may be had free of charge, by addressing the Recording Secretary, Dr. Frank R. Fry, 3138 Pine Street St. Louis, Mo.

C. LESTER HALL,

Pres. Missouri State Medical Ass'n.

C. F. WAINWRIGHT,
Cor. Secretary.

TRANSLATIONS.

BY EDGAR THOMPSON, M.D.

The External Signs of Degeneration.

Dr. Legrain says that insanity is by no means in every instance, a purely cerebral or psychical disorder, (*La Press Medicale* December 21, 1895). In a large number of cases of disordered mentality a careful examination will reveal certain constant anatomical deformities, and these external abnormalities are sure signs of degeneration.

The authors definition of a sign of degeneration includes all the organic dispositions, congenital and permanent, which oppose the regular accomplishment of the reciprocal functions and destroys the biological harmony, with a tendency to reproduce the deformity.

Degeneration is a malady of the species and not of individuals. Many so called signs are accidental, and a study of family types is the only way to find the real inherited tendencies. Most of the signs, which characterize a degenerate species, are to be found in cephalic extremity; the head and face are especially important.

All these malformations induce a departure from the normal embryonal development. It may be an arrest, retardation or excess of development of the whole, or it may be an arrest, retardation or excess of certain parts. It may be trophic troubles which manifest themselves in asymmetry, atrophy, hypertrophy, etc.

The anomalies of the cranium are the changes of volume and form.

One of the most frequent evidences of degeneration is the marked contraction of the skull in all of its diameters. In most cases the symmetry is undisturbed; this is microcephalus. This condition may be due in a few

cases, as some claim, to a premature union of the skull bones. In true cases of degeneration it is an arrest of the development of the brain. In the imbecile type there seem to be strong proof of the anthropological theory that all degenerations are merely evolutionary retrogressions. Some claim that in a large number of cases of idiocy the hands are narrow, the fingers are long and slender, all of which are simian attributes. The comparative size of the head can not be depended upon, for in many cases of idiocy there is an arrest of the development of the whole body.

Sometimes the anomaly is an increase in the cranial volume. This may be due (1) to a simple hypertrophy of the brain, or (2) as is most always the case, it is a ventricular dropsy, or hydrocephalus. The general form of the hydrocephalic skull is irregular. There are protuberances corresponding to the principle centers of ossification, and the hollows are situated over the sutures. In simple hypertrophy the cranium will be uniformly enlarged.

The diagnosis of degenerative cranial forms is made by the study of the relative dimensions of the skull, the face and the body. The anomalies, in the shape of the skull, are produced by changes in the diameters and curvatures, most frequently the abnormal conformation is especially marked in the antero-posterior vertical plane, depending on the relative development of the anterior and posterior regions. In some cases the frontal segment is greatly enlarged, in others the same region is flattened and recedes from the glabella. In other cases the vertex makes an acute angle with the occiput. All these forms are departures from the normal elliptical figure. The plane made by drawing a line from the ears over the vertex of the head should make a symmetrical curve. A rectangular shape of this plane is often found in degenerate subjects. The length of this binauricular line varies with the extent of hydro- or microcephalus.

A horizontal line drawn about the head should make an ellipse. In certain cases of degeneration this plane is extremely quadrilateral.

The most important and typical deformities of the degenerate head are the cases which present an unsymmetrical formation of the skull and face. These asymmetries are sometimes so slight as to escape observation, but they can be easily demonstrated by the use of the compass and flexible lead tape. The asymmetries are numerous. One variety is where the head seems to be twisted so that the long diameter is oblique, and the frontal protuberance is greater over one eye than over the other. In others, one parietal eminence is flattened. In some cases the asymmetry consists in an exaggeration of certain parts of the skull, the temporal region may be deformed, resulting in displacement of the ear.

In all cases of degeneration there are usually many indications of an imperfect bony development, and the deformities of the skull are reinforced by facial malformation. The asymmetry of the face of old people due to the unequal use of the facial muscles must

not be confounded with the degenerative asymmetries which are always congenital and anatomical deformities. The signs of degeneration are usually more prominent in infantile life than later on.

Degeneration may be expressed by a displacement of one ear, by a greater development of one malar bone than the other, by an inequality of the masseter regions, by an inequality of the upper and lower maxillary bones producing prognathism.

Anomalies of the ears are frequent in the degenerate. It may be a hypertrophy of one ear with displacement. Irregularities in the comparative shape of the ears are very common. An adherent or sessile ear is an unfailing sign of degeneration, especially if it is associated with other indications.

The eyes furnish a few indices of degeneration, strabismus, if congenital and if not caused by refractive errors, is a true muscular malformation. Divergent strabismus is most always associated with hypertrophic malformations of the skull. Congenital ptosis and coloboma of the pupil are frequent signs of degeneration.

Very early in embryonal life the cephalic end of the three primary layers divides into a median and two lateral centers of development, and the subsequent growth and final coalescence of these three parts make the face. An unequal development of these parts or their too early union or failure to unite make the deformities of degeneration. The centers forming the superior maxillary bone may unite too soon, causing an arrest of development of that region. The lower jaw will, consequently, protrude to a great degree. This condition is termed inferior prognathism. The superior maxillary may hypertrophy producing the opposite condition, or superior prognathism. Prognathism of the superior maxillary bones is very frequent in the degenerate, and a careful examination will often reveal an unsuspected protrusion. Deformities of the hard and soft palate and of the incisor region of the dental processes of the maxillary bones are frequently signs of degeneration. If the maxillary centers of growth become fixed too early in life the palate cannot extend laterally, and will, consequently, be very much arched and vaulted even encroaching on the nasal fossæ. This vaulted palate is generally associated with imperfect development of the incisor process, resulting in a central triangular space in which the teeth will not oppose. This double malformation is a certain indication of degeneration and becomes a positive proof if superior prognathism is present.

Fissure of the hard and soft palate are signs of degeneration due to an arrest of development.

There are many anomalies, of the teeth in the degenerate, they may be in the development, position and shape of the teeth. In idiots there are always a retardation of the first set of teeth, sometime none will appear before the second year. In other cases of idiocy there will be congenital absence of the incisor teeth, or there may be supernumerary teeth. The incisor teeth are very

irregularly placed in the degenerate. The upper and lower teeth hardly ever oppose evenly. The upper incisors will usually override the lower.

The authors thinks the irregularities of the teeth of inherited syphilis are really degenerations. It will be observed that all the dental and buccal deformities are about the median line. This is due to the fact that the final union of the embryonal segments take place here, and the developmental disturbances will center about this line. Signs of degeneration are found in the trunk and limbs, they are too numerous to mention, and include the hypertrophies, atrophies, dystrophies, the genital anomalies, polydactylus, syndactylus, etc.

The author answers the question as to morbid character of the malformations. He says in all the greater anomalies there is no doubt of a physiological and an anatomical perversion. But the morbid character of the lesser lesions, as the changes in the shape of the ear, the oval pupil, the arched palate and irregular teeth is much more difficult to determine, especially if there is no evident disturbance of any function. Almost all of the deformities which occur in the degenerate are occasionally accidental and due to some external influence. These, of course, can not be considered as a sign of family decadence. A tendency to transmit the malformations is the sure indication of this morbid degenerate character. There is another point of value in the study of this question, viz.: in the degenerate there is generally a combination of signs. In the same patient there will be facial asymmetry, vaulted palate, overhanging jaw, badly opposed teeth, and other deformities of the face and skull.

The study of the external signs of degeneration has a great medico-legal importance, since the physical monstrosities are always associated with moral and intellectual depravity and criminal tendencies, but the intellectual and moral degeneration are not always parallel. In one case there may be a feeble intellect with no trace of anti-social tendencies while another may be a veritable moral monster.

The Hygienic and Medical Treatment of Hypertrophy of the Prostate During the Premonitory Stages.

There are many hygienic rules to obey and many medical remedies to apply in incipient cases of hypertrophy of the prostate (*Rev. Inter.*). In this early stage there will only be functional disturbances without any necessity for catheterization or any tendency to retention. A strict observance of all these hygienic and medical rules greatly retards the progress of the hypertrophy.

The one main precept is to avoid congestion of any part of the urinary tract. Some of the causes of genito-urinary congestion are:

1. Chilling of the body or any part of it, as chilling of the feet, etc.

2. Errors of diet must be corrected and the diet strictly regulated. All highly seasoned and spiced food must be studiously avoided. Pork, fish, shellfish, asparagus, strawberries, alcoholics, especially beer, coffee, tea, etc., should not be indulged in. The author says all irritant beverages should be interdicted and, in fact, all drinks, aqueous or not, are to be frowned upon because they increase the genito-urinary activity. He has seen the grave symptoms of acute congestion and retention follow the treatment of a case with the various mineral waters. M. Guyon makes a very rational suggestion that the breakfast should be the main and largest meal of the day and very little be eaten at the evening meal. He bases his theory on the fact that the night hours in bed are very favorable to prostatic congestion and if a large meal is eaten on retiring it will add another well known causing factor.

3. It goes without saying that excessive venery can not be tolerated in a wise hygienic course.

4. A prolonged dorsal decubitus, especially in a warm bed is very liable to cause a prostatic congestion. The warmth of the bed itself is very unfavorable to such cases and it will be wise to recommend to the patient that he cover himself as lightly as possible at night, and not to prolong the sojourn in bed longer than is absolutely necessary to obtain the proper amount of sleep.

In prostatic enlargement the patient will often wake to urinate and as micturition will sometimes be difficult he will walk the floor for a few moments, and his scantily clad body will be chilled by the air, which will aggravate the congestion and hasten the disease to a certain degree. The exposure must be avoided by having warm wraps convenient.

5. Fatigue seems to promote the progress of the enlargement and sclerosis. All violent exercise and any exhausting work must be proscribed.

6. The bladder must never be allowed to be distended by a negligent prolonged retention of the urine. The urine must be evacuated at stated regular intervals.

7. Constipation is one of the most serious complications. It usually accompanies hypertrophy and greatly increases local congestion. The treatment of the constipation often does more harm than good. Small repeated doses of podophyllin, cascara sagrada, and castor oil is the best method. The purgatives are bad, especially those which stimulate, as aloes, and drastics are absolutely interdicted. M. Guyon recommends that the patient take, mornings, a large glycerine enema. This, aside from producing an evacuation, will relieve the congestion. On going to bed hot water enema is good (110°). This must be given with a short tube so as to allow the hot water to come in contact with the prostate which will render the body anemic. If there is considerable nocturnal irritation an emollient enema with tr. opii will be serviceable; or suppositories of opium and belladonna.

As a general treatment iodide of potassium may be given for its reputed action against the tendency to

arterio sclerosis.—The stomach will frequently demand attention, and dyspepsia, etc., must be regulated.

Mortality of Diphtheria.

The most important addition to the literature on the serum therapy is a statistical review of the comparative mortality of diphtheria for the first six months of 1895 compared with the average mortality of the same months for the preceding ten years, presented to the Paris Academy of Medicine by M. Monod, and reported in *Jour. de Med. et Chir.* January 10, 1895. Dr. Monod carefully analyzed the returns of all the French cities of 20,000 or more inhabitants, and found a remarkably uniform decrease in the number of deaths from diphtheria. The figures can be taken as an accurate statement of the present status of the question, because in every instance the clinical diagnosis was confirmed by a bacteriological investigation. The average number of deaths from diphtheria in the first six months of the years 1888-1894 was 2,627. The mortality for the same period of 1895 was 904, or a decrease of 1,723, or 65.6 per cent. The doctor says this sudden diminution by over one-half, which can not otherwise be explained than that it was due to the serum therapy, speaks eloquently for that treatment.

The decrease is especially marked in the larger cities. The deaths in Paris during the first semester of 1894 were 716; during the same period of 1895 the deaths were 226. The mortality in Marseilles for the two periods was respectively 232 and 70.

The author praises the management of the Pasteur Institute for its gratuitous distribution of an enormous amount of antitoxin serum. An average of 10,000 doses per month was sent out.

The detailed comparison of the two periods, month for month, is exhibited in the following table:

Months.	Number of deaths from diphtheria in 108 of the larger French Cities.		Decrease.	
	Average 1888-1894.	1895.	Number.	Per Cent.
January	469	205	264	56.2
February	466	187	279	59.5
March	499	155	344	69.3
April	442	160	282	63.8
May	417	113	304	72.5
June	333	84	249	74.5

MEDICAL : SOCIETIES

PROCEEDINGS OF THE ST. LOUIS MEDICAL SOCIETY.

W. H. FUCHS, M.D., EDITOR.

Stated meeting, Saturday evening, January 4. 1896; the president, W. G. MOORE, M.D., in the chair.

DR. A. H. MEISENBACH presented a patient to demonstrate the result of

Skin Transplantation Without a Pedicle.

Ten years ago the patient received a burn of the hand, which involved the entire thickness of the skin on the palmar surface of the four fingers. As is usual in such cases, very marked contractions occurred in the resulting scar and the fingers became firmly flexed. Motion was intact in the meta carpo-phalangeal, and only slightly impaired in the inter-phalangeal joints of the fingers. On account of the exposed location of the scar it was thought desirable to obtain a firm and thick skin surface at once, so that Thiersch's or Reverdin's method were considered inapplicable.

The operation was done three weeks ago. The first step consisted in making transverse incision through the scar of the index finger over the fold of the first inter-phalangeal joint. This permitted perfect straightening of the finger after breaking up very slight adhesions of the joint surfaces. The scar tissues was then dissected off as smoothly as possible, and this resulted in a denuded surface about $\frac{5}{8}$ by 2 inches. The dissection was made down to the connective tissue. A rectangular piece of skin, about two lines wider and longer than the denuded area, was then dissected from the left side of the patient, care being taken here also to have smooth under surfaces. After the denuded surfaces had been carefully dried they were placed in apposition and the transplanted skin was secured in position by a continuous suture so applied as to bring out the edges in exact apposition without producing constriction or strangulation of the included tissue.

The finger was dressed with a thick layer of iodoform vaseline spread on absorbent gauze, in order to keep the flap moist, and it was then placed on a palmar splint. The dressing was changed in four days and the flap was found in good condition, healing progressing favorably. Three days latter the dressing was again changed, the flap was found united and there was exfoliation of the outer, horny, layer of the skin. When the patient was presented a new horny layer had not yet completely formed, but the flap was in good condition and motion in the finger was as good as normal.

Speaker will operate on the remaining three fingers after the same manner, and hoped to restore the func-

tion of the hand to its normal state. This is not major surgery, he said, but it requires a great deal of care if a good result is to be assured.

DR. W. H. HALLEY, of Kansas City, had only words of commendation for the judgment exercised in this case. In our rush for abdominal surgery we are liable to overlook the surgery of the extremities. The correction of deformities of the extremities has been very much neglected, and he was glad to see so much care exercised by the doctor.

DR. EDWARD BORCK said there is as much care and skill required in an operation of this kind—some people call it minor surgery—as in capital operations. One point not mentioned by the speaker, deserves especial emphasis, and that is the necessity for removing all adipose tissue from the flap. A failure to observe this point would interfere with the success of the operation.

DR. THOMAS O. SUMMERS was about to make that same point. Nine tenths of the failures in skin grafting are due to the presence of adipose tissue between the flaps, as there can be no cellular activity between them in this case.

In observing Thiersch graft skin, speaker had always noted the care exercised in drying the denuded skin surface. It never occurred to him to ask for the reason for this.

DR. S. POLLAK referred to a recent article in the Philadelphia *Medical Record*, in which a case was cited where grafts were obtained from blisters in a patient who had received extensive burns, and who could not furnish the grafts in the usual manner. This would seem to be simpler than the process of dissecting the flaps, and it seems to be quite as effectual.

DR. ROBERT FUNKHOUSER.—How thick was the flap; did it include the chorium?

DR. MEISENBACH said he dissected off the entire thickness of the skin and then removed the adipose tissue much as a tanner prepares the hides.

The necessity for the removal of all adipose tissue from the denuded surface was emphasized by Krause of Germany, in the transplantation by the direct method and with a pedicle. These methods differ only in the manner in which the flap is nourished. With a pedicle nutrition is partly supplied through the vessels left intact in the pedicle, which remains attached to the mother so to speak, whilst in the direct transplantation method nutrition is derived from the cut edges and the denuded surface below. It is, therefore, of the greatest importance that the surfaces be thoroughly dried so as to be brought into perfect contact. He is in the habit of cleaning the surface with a physiological salt solution.

DR. FUNKHOUSER said that by thoroughly drying the surfaces of the flap and performing slight pressure, thus bringing the the two surfaces in close contact, a process of osmosis is probably established, and in this manner nutrient material is drawn out into the flap from the underlying tissue.

St. Louis Obstetrical and Gynecological Society.

Annual meeting of the Society at the residence of Dr. Dorsett, November 21, 1895. DR. FORD, President, in the chair; DR. DORSETT, Secretary.

DR. FORD read an address as retiring President.

DR. LUTZ.—I think that the address of the President should not be passed without some remarks. If the Society will indulge me there is one subject about which I wish to say a word. You will recall that the doctor in his address said that women were delivered either by physicians or midwives. I desire to call your attention to the midwives from a legal standpoint. I haven't any statistics, but I have no doubt if I had the figures it could be shown that an immense number of women in the city are delivered by midwives. This is especially true of the German population of the city; I have taken up the subject of the education of midwives in the State Board of Health. We found that the curriculum required for the education of a midwife was a course of three months which had been extended by our immediate predecessors to two courses of three months each. I will say that the law recognizes, not explicitly but by interpretation of the Supreme Court, a midwife as coming under the head of those to whom the practice of medicine act was supposed to apply. In other words, the Supreme Court has decided that the practice of midwifery is part of the practice of medicine, and based on that decision the State Board of Health of this city undertook to prescribe a curriculum for schools of midwifery in good standing just as it prescribes a curriculum for medical colleges to be in good standing. We found a most lamentable condition of affairs as regards the schools of midwifery; they being all located in the cities. The curriculum was extended from two courses of three months each to two courses of five months each, with an interval between them of three months. We also undertook to demand of schools of midwifery proper equipment, and additionally we demanded that each woman who received a diploma in a school of midwifery should bring evidence that she had attended cases of labor; in other words, that she had practical experience. Now I can speak for two of the schools of midwifery in this city, I can not speak for the third because I haven't made an examination of that. But those schools are equipped with charts, manikins and specimens, and one of the schools I can say in particular is conducting a course which in some of its branches, or in some of its features, is superior to the course given by the ordinary medical college. The subject of embryology for example in one of our schools, is taught by experiments, and they give the students a very thorough course.

There is one fact, however, which I consider most lamentable and that is that these women are required to have no kind of preliminary training, I mean the ability to read and write English. I believe that women should be made to show a certain degree of liter-

ary proficiency; they should be able to read and write one language either English or German. And when the proper time comes I propose to ask the State Board of Health to adopt this preliminary requirement. And I believe also that they should have a graded course; as it now, is a school of midwifery is conducted just like an old fashioned medical college used to be conducted, when a student attended all the lectures of all the teachers in all the branches. It is true, as you all remember, we began by devoting our attention to what are termed fundamental branches, but nevertheless attended all the lectures, which of course is not good pedagogy. This subject is of great interest to the physicians because so many times you are called into a case where a midwife has not done things which she ought to do and has done things which she should have omitted. But a great improvement is going on. These women should be made familiar with the danger of infection and with the methods of preventing septic conditions from arising, especially by practicing cleanliness. The Board of Health needs the backing of the profession in these matters. We are all interested as physicians in seeing to it that no harm comes to the women during childbed. We are all interested as citizens in seeing that the midwife who is employed is possessed at least of the ordinary qualifications of an obstetrician, so that this is a subject of very great importance. Unfortunately like the medical schools, the midwifery schools have been multiplying. Then another thing that I have taken in hand more as an individual, but which I purpose to push professionally and that is the part that midwives take in the practice of medicine. Now, since I have given this subject attention I have noticed the midwifery signs as I ride through the different streets such as Mrs. Brown, Midwifery and Doctress, and you will know the amount of practice these women do, especially gynecological practice and practice in disease of children. It is only ten days ago I was sent for to see a child which I was told had diphtheria; she was the child of an employee surrounded by the cottages of other employees in public stations, and he was anxious that the families of other employees should be protected if this child had diphtheria, and that of course the other portions of the community should likewise be protected. I repaired to the place and found a rather intelligent Irishman who said the child had been sick for a week and had been attended by a doctress, giving the name of this woman. Now this woman though a midwife had attended this child for a virulent case of diphtheria. Such a thing is simply horrifying. I believe that it ought to be stopped. The only way to stop it is by law, and I believe that all these women who have signs up as doctress should have their licenses revoked as midwives. The only ground for which the Board of Health can revoke anybody's licenses is for advertising in a manner calculated to deceive the public. You will all agree that this is an important subject, as bearing upon the safety of the community at large, and I believe that these women should be given

to understand that they are not allowed to practice medicine, and if we could get the assistance of the criminal officers in prosecuting them that much trouble would be averted. Then it is a little unfortunate that when you come to prosecuting either doctor or midwife that the prosecuting officers think it is an unpopular thing to do. An illustration of the unpopularity of the thing and the position they assume. Sometime ago a man was before the the State Board of Health for unprofessional conduct in committing an abortion. It was clearly proven to the Board as clear as anything could prove it. The case was brought before the grand jury of the county in which he resided, the same evidence was submitted to the grand jury and they failed to return an indictment, and the prosecuting attorney of the county was the attorney of this man before the State Board of Health, and it appeared upon being questioned that he prosecuted the same man before the United States Court of the Eastern District of Missouri for violating the internal revenue laws in selling whisky without a license. I bring this as an illustration of the difficulties that beset that portion of the practice of medicine. The State Board of Health can only call the attention of the prosecuting attorney to the violation of the law, as it is the duty of any other citizen. But we in this Society are more particularly interested in these midwives. I believe that when the requirements of these midwifery schools are made higher, the fewer will be, and ought to be the dangers to women in childbed. In the older countries, especially in France and in Germany, also in Austria as I happen to know, and in Switzerland, the requirements for attendance upon lectures in midwifery are immeasurably greater than with us.

DR. MCPHEETERS.—In these schools of midwifery are the instructors male or female?

DR. LUTZ.—Both. In one school, the St. Louis College of Midwifery, there are three male instructors and two female instructors. In reality, however, there are but two instructors, because two of these teachers teach in German and the other two in English, and one teacher, the teacher of anatomy, teaches both classes combined, both German and English speaking students. I believe that these good schools of midwifery are doing a very excellent work and more particularly as regards the practice of midwifery. Now in the ordinary medical schools the students who see a case of midwifery at colleges are very few. I happen to know by inquiries which I made in the school of midwifery that the woman attended no fewer than four cases of midwifery.

DR. MCPHEETERS.—Alone or with the teacher?

DR. LUTZ.—With the teacher. I will say that the subject of teaching midwifery in the medical colleges is undergoing a great change for the better. These remarks suggested themselves by the reading of the President's address, and I present them to you rather as a member of the State Board of Health who has to do with these matters. I am constantly in correspond-

ence with physicians throughout the State. I have a letter from a physician in Hermann who made the inquiry whether a woman could act as a midwife and as a washer of corpses at the same time. This woman was employed by the common people of that town to wash the dead, and he said she would go from a house where she had washed the corpse, directly to another house and attend a woman in confinement. Now, I can not but believe it will result in good in bringing this matter before the gentlemen who have undertaken the responsibility of teaching midwives. What do you think when you get an ignorant woman for examination that knows absolutely nothing about ordinary cleanliness, about antiseptics, about the indications of fever, and you ask her what is the normal temperature of the body and she tells you 80°. Now you know that such a woman can not be entrusted where a complication is liable to occur.

DR. DERIVAUX.—Is there any means of stopping a midwife from practicing for a time if she has cases of puerperal fever on her hands?

DR. LUTZ.—I don't see how you could, doctor, under the criminal law. She might be amenable to a civil action for malpractice if she infected a patient.

ABSTRACTS

MEDICINE.

Auto-Intoxication.—From time immemorial it has been known that the human organism can be poisoned by products elaborated within the economy. But so little definite knowledge has been gained that it is difficult to demonstrate beyond a doubt many phenomena which we believe to be due to auto-infection. Conclusions arrived at on this subject must be largely a matter of induction. The causes of the phenomena must be discovered and identified.

The crowning glory of nineteenth century medicine is the disposition to study the origin of disease. As to the causes of disease, we recognize four primary pathogenic processes. The first, elementary dystrophies, arise from vital activity of cells when acted on by external causes, as physical, mechanical and chemical. The simple process, acted on by the effects of a local character, is difficult to study. The second cause, nerve reaction, is difficult to assign to its proper place in disease production. Have we accorded to the reflexes more or less of the pathogenic influence than they actually exert? In subjects reduced by other influences, the reflexes act as a secondary role. The two other pathogenic processes are disturbances interfering with nutrition and infection. Upon the first the question of diathesis bears directly. Diathesis is defined as a perma-

nent disturbance of nutrition, which prepares, provokes and maintains different diseases, as seen in their location, their evolution, and pathological processes.

Infection is the last of the four pathogenic processes. Modern medicine has demonstrated that in an individual attacked by a contagious disease their exist lower vegetable organisms capable of multiplying in healthy tissues, and capable of causing in them a disease similar to the original. To speak of a specific microbe, instead of virus, or contagion, is advancing from the vague and indefinite to the definite and rational. How is it possible to develop disease? It is not the chance meeting of man and microbe. The meeting is almost constant, and generally without results. Infectious disease is only accidental, because the infectious agent finds only exceptional circumstances favorable, not to its penetration, but to its development and multiplication. In health man is not attractive to the microbe, but when his vitality is weakened, his means of defense is diminished. The chemical constitution is modified, and invites invasion by microbes. Individuals weakened by overwork or depressing influences are struck by disease-developing conditions from insignificant nerve excitations, which, in perfectly healthy men, would have produced nothing. Temporary disturbances of nutrition are caused by the reaction of a disturbed nervous system. Hence the way in such cases is always open to infection. The ever present germ, which is to fulfill another part in nature, the destruction of dead matter, is also capable of destroying living matter, when it finds it in a state of preparation. Perhaps the history of angina, pneumonia, and rheumatism lies here. This teaches the physician that while seeking to destroy the microbe, he must sustain the forces of the organism.

This truth should be constantly before him. Before every illness there is a disturbance in life—for nutrition is life. Perverted nutrition induces the development of new substances, which may become toxic. Peptones are found in the organism, which do not originate in the intestinal canal, but are injurious in that, being dialyzable, they escape by the urine, and thus cause abnormal spoliation of the organism. Infectious agents can produce toxic substances. They form soluble ferments, which produce local lesions by breaking up living cells.—G. B. Sweeny in *Maryland Med. Jour.*; *Amer. Med. Surg. Bulletin*.

Fatal Acute Poisoning by Cocaine.—In October, 1895, a young woman swallowed upward of 2 dr. of a 10 per cent solution of hydrochlorate of cocaine, the equivalent of 12 to 13 grs. of the alkaloid. Almost at once she had vertigo, followed in quick succession by nine epileptiform convulsions. She died in 40 minutes. The author saw the body eight and one-half hours later; found it well nourished, the trunk considerably warm, but extremities cold, and rigor mortis well developed in them. The expression was placid; face, lips, and anterior surface of body pallid and waxlike. On the dependent portions cutaneous hypostasis was marked.

The pupils were dilated, conjunctivæ not injected, and teeth firmly clenched. On post-mortem, next day, the external appearance was the same. The brain was anemic, but otherwise normal. Meninges deeply congested. Myocardium healthy and valves competent. The right ventricle contained a little dark-colored blood; the left was empty. Ventricular walls relaxed. The lungs congested and highly crepitant. Frothy, partly blood stained mucus was found in the bronchi. Except for hyperemia, the liver, spleen, and kidneys were normal. The gastric mucosa could not be examined. All other organs were normal.

Recorded cases of fatal cocaine poisoning are comparatively few. One is a case of a woman of 71 who died after a subcutaneous injection of $\frac{3}{4}$ gr.; another of a man who died after the injection of $1\frac{1}{2}$ grn. Zambianchi reports a death of a woman after the hypodermic administration of $3\frac{1}{2}$ grn. Death occurred in a woman who accidentally swallowed 22 grn. The first published case in England occurred in a man who died an hour after taking 20 grn. A fatal case occurred in Russia after a rectal injection of 22 grn. Recoveries have taken place after the ingestion of large doses. A man recovered after swallowing 46 grn. Serious toxic symptoms have arisen after the subcutaneous administration in different patients of $\frac{1}{4}$, $\frac{1}{20}$ and less than $\frac{1}{2}$ grn. One-hundredth of a grain in the eye of a 14-year old patient caused serious poisoning symptoms. The case reported above tends to support Mannheim's estimate that the fatal dose of cocaine is about 15 grn.—O. H. Garland in *The Lancet*; *Amer. Med. Surg. Bulletin*.

Medicated Kefir.—M. O. Lanzer, of Vienna, has succeeded in effecting an intimate mixture of certain remedies, notably creosotal, carbonate of guaiacol, arsenic and iodine, with Kefir. They are completely dissolved in the Kefir without change.

1. Creosotal and carbonate of guaiacol solutions in Kefir. The first occurs in the form of a thick, milky fluid, of a very pleasant acidulous taste and an acid reaction. It has no deleterious action and is well borne even by those of weak digestion.

The writer obtained with the two preparations excellent results in tuberculosis, chronic catarrh of the respiratory organs and in gastric disorders, as chronic catarrh of the stomach, cancer of the stomach, nervous dyspepsia, obstinate vomiting of pregnancy, scrofula, all diseases of the liver in which an exclusive milk diet is indicated, in renal and vesical affections, anemia, chlorosis, in convalescence from severe maladies and in all cases where a sustaining regimen is indicated. The good effects of Kefir creosotal are observed at the end of a few weeks in improvement of the appetite and increase of weight. The rales diminish in cases of catarrh of the air passages, or even completely disappear. In the early stage of tuberculosis dullness takes leave at the end of some months and expectoration becomes completely free from bacilli.

In affections of the digestive system Kefir with cre-

osotal and carbonate of guaiacol acts as a disinfectant, decreases intestinal fermentation and putrefaction, and is decomposed, in traversing the bowel, into creosote or guaiacol and carbonic acid.

The mode of administration is as follows: Every day for fourteen days the patient takes a bottle of Kefir, No. 1, containing creosotal or guaiacol (15 grains of creosotal or 8 grains of carbonate of guaiacol), one half after breakfast and the remainder in the afternoon, or an hour after supper. During the next fourteen days Kefir, No. 2 (45 grains of creosotal or 15 grains of carbonate of guaiacol, to the same quantity of Kefir) is given and, finally, for two months Kefir, No. 3 (75 grains of creosotal or 24 grains of carbonate of guaiacol); is administered; or for one month Kefir, No. 3, and one month Kefir, No. 4 (150 grains of creosotal or 80 grains of carbonate of guaiacol). In many cases it is well to alternate Kefir and creosotal with Kefir and carbonate of guaiacol. For children only Kefir, No. 1, and in moderate doses, should be prescribed.

2. Kefir with arsenic (No. 1 with 3 drops, No. 2 with 4 drops, No. 3 with 5 drops, and No. 4 with 6 drops of Fowler's solution)—This is indicated in all cases where it is necessary to prescribe an arsenical course and nutritious regimen, as in neurathenia, hysteria, chorea, tabes dorsalis and cutaneous affections.

3. Kefir with iodine (No. 1 with 8 grains, No. 2 with 15 grains, No. 3 with 24 grains, and No. 4 with 30 grains). This combination may be employed in all cases where preparations of iodine are indicated at the same time with a supporting diet. It is efficacious as a sorbifacient, antisiphilitic and antirheumatic; it gives good results also in scrofula, lead poisoning and chronic mercurial intoxication, and chronic parenchymatous nephritis.—*La Medecine Moderne*.

SURGERY.

Management of Cases Immediately After Operations.

Dr. Thornley Staker says the most critical period of all surgical cases is that space of time from the termination of the operation to the moment when the patient can be declared free from all the many dangers and consequences of the operation itself (*Brit. Med. Jour.*) Two kinds of depression extend through this period and the character of the termination depends on the gravity and persistence of these depressing influences. These are (a) shock, and (b) exhaustion consequent on vomiting. These two influences are common to all operations, but they seem to follow no laws, and they may vary both in intensity and duration. They may last from a few fleeting moments to days. Their intensity can not be surmised; it may be very trivial or it may be fatal. The author says no

indications as to the character of the post-operation symptoms can be drawn from the condition of the patient, the nature of the case or the character of the operation. The symptoms may be alarming after a slight operation on a robust person, while a weak individual undergoing a severe operation may not suffer from shock. This train of symptoms after operations is such an unknown quantity that it should be the rule in all cases to attend to every detail which will antagonize shock or exhaustion, and which promote a reaction.

There are many states of enfeebled health which are predisposing factors to shock, but there are many more in which the cause is obscure and unexpected. The author points out that however bountiful the blessings of anesthesia and antiseptics may be, their use has produced a decided tendency to an undue prolongation of operations. Protracted anesthesia is the principal single cause of shock and especially vomiting. The persistence of the vomiting is roughly proportionate to the length of narcosis, and any prolongation of the latter is a most unwarranted provocation. Making the anesthesia as brief as possible is the most important direct measure in the avoidance of shock and exhaustion by vomiting.

The author says shock and vomiting are greatly due to common causes, and for their relief he has learned to rely on the three following therapeutic agents: (1) Heat; (2) alcohol; (3) opium or morphine. In shock danger can be overcome to a great extent and the surface warmth restored by hot applications, while rubijacients (mustard) to the extremities, over the heart and solar plexus will induce a return of physiological function.

When heat is ineffectual or too slow, recourse must be had to alcohol, which must always be given by the rectum, not only for the reason that vomiting may be present, but also because in shock the digestive and absorptive functions are suppressed. The author urges that the rectum should always be cleared before anesthesia, in anticipation of a necessity for the use of stimulant enema. The writer considers opium and its main salt the most useful agents to produce a reaction from shock. If vomiting is the urgent symptom morphine is indicated, but if the stimulation of the drug is especially wanted opium is preferable. Persons in shock tolerate opium in large amounts, and the value of morphine hypodermically or opium by enema in small repeated doses, in depression due to shock, can not be overestimated.

The recent method of combating vomiting by placing a mask, charged with acetic acid, over the face for some hours, is being tried by the author, but he is not yet prepared to express his opinion. The "rationale" is as follows: The chloroform is decomposed into chlorine and formic acid. Both are irri-

tating to the trachea and larynx, and probably thus cause the vomiting. The acetic acid neutralizes the chlorine, which is the most irritating. Thirst is a distressing symptom after operations. This, according to the author, is best relieved by rinsing the mouth with hot water and introducing warm water in the rectum. The use of ice is strongly condemned. It increases the thirst and vomiting.—EDGAR THOMPSON, M.D.

Closure of Arterial Wounds by Suture.

Heidenhain (*Centralbl. fur Chir.*), refers to two previously recorded cases of closure by suture of a wounded artery—in one instance the common femoral, in the other the common iliac—and reports a further case under his own care. In this case during the removal of some cancerous glands from the armpit, and after necessary resection of a portion of the axillary vein, a wound about half-an-inch in length was accidentally made in the main artery. The bleeding having been arrested by digital compression, the edges of the arterial wound, which took a longitudinal direction, were brought together by a continuous suture of catgut. The bleeding was thus completely arrested. The lumen of the vessel apparently was not diminished, and during the final stages of the operation the sutures held firmly in spite of strong arterial pulsation. The patient made a good recovery and, when last seen about seven months from the date of operation, was quite free from relapse. There were no signs of disturbed function of the arm, and the axillary artery could be felt pulsating along almost the whole extent of the armpit.—*Brit. Med. Jour.*

Observation on the Fossa Capitis and a Tubercle in the Trochanteric Fossa.—Dr. F. J. Brockway, of New York City, presented a carefully prepared paper on this subject at the recent meeting of the Association of American Anatomists. The fossa capitis, which in the human femur is found at the extremity of that bone and gives attachment to the ligamentum teres, presents ordinarily a well marked depression. In certain of the lower animals this depression does not exist. The ligamentum teres and the fossa capitis are absent in the elephant and hyrax, the rhinoceros and tapir, the hippopotamus, hedgehog, the seal, sea otter, and walrus. They are absent in the monotremes, the echidna, and ornithorynchus, of the marsupials, the great kangaroo, of the edentates, the three and two sloth, and ant-eater. It is also lacking in one rodent, and in one of the insectivora, etc.

While a study of comparative anatomy frequently leads to valuable deductions as to the function of parts of human anatomy, the writer dealt more especially with the human femora. He examined 900 human femora, of which the pedigree of over 400 was known. Moser,

in his article in Schwalbe's "Arbeiten," Vol. ii., p. 36, says that only one half of the fossa capitis that he examined presented vascular foramina. Dr. Brockway, however, found that in the 900 adult specimens which he examined, 84 per cent. presented these vascular openings. Twenty-six specimens (28 per cent.) presented no fossæ at all, and in 5 cases there was a distinct tubercle in place of a fossa for the insertion of the ligamentum teres. In 5 cases there were double fossæ occurring on one head. In 2 cases there was a combination of a fossa and a separate tubercle on the same head. In 36 cases the fetal condition persisted, i. e., there was a fossa and a distinct postero-inferior groove descending nearly to the margin of the articular surface, and always pointing toward the line passing up from the lesser trochanter to the inferior border of the neck of the femur. Thus it is impossible to determine to which side of the body the femur belongs by noting the direction of this groove; holding the fossa facing the observer the groove point to the side to which it belongs.

Twenty eight cases showed the presence of a fossa and a connected tubercle. The ligamentum teres is not inserted into the whole floor of the fossa, but into its upper half and upper margin. The lower part of the floor is free and the ligamentum teres simply rests upon it. Therefore the vascular foramina are usually confined to the deepest and lowest portions of the fossa. The synovial membrane has a more extensive insertion than the ligament proper. The author described three types of the fossa: first, oval; second, triangular; and third, round. They are all practically the same, whether they contain vascular foramina or not. The most common type of all is the oval form (forty-five per cent.); the next most common the triangular form (thirty-four per cent.), and finally the round type (twenty-one per cent.).

Old people are apt to have shallow fossæ, but their foramina are not more apt to be absent than in adult life. Out of 22 people over sixty, 13 had shallow fossæ. The character of the foramina and fossæ are not symmetrical on both sides. Out of the 900 bones examined only 4 could be called "pilastered." Twenty-eight specimens showed a good third trochanter (three per cent.) not counting an exaggerated gluteal line. Six of these showed also a tubercle in a digital fossa. From a study of these specimens the linea quadrati would seem to be a myth, as Dr. Brockway has never seen it as a distinct line representing the full length of attachment for the quadratus femoris.—*Medical Record.*

NOTES : AND : ITEMS

Photography as an Aid to Deaf Mutes.—The *Wiener medizinische Blätter* announces that Dr. Gutzmann has succeeded in photographing articulate

speech, so to speak—that is to say, the movements of the lower jaw and the soft parts—in a way calculated to be useful to deaf-mutes. He has found it best to take side views. It seems that the lower jaw moves downward in the enunciation of *a* (our *ah?*), forward is that of *s* (whether initial, equivalent to our *z*, or terminal, our hard *s*, is not stated), and *sch* (our *sh*); backward is that of *f*, *w* (our *v*), and *v* (our *f*), and upward in that of *d*, *t* and *n*. The lips and cheeks move forward in the articulation of *o* and *u* (our *oo*), and backwards in that of *e* (our long *a*) and *i* (our long *e*). The floor of the mouth, so far as its behavior is visible in the soft parts beneath the lower jaw, move downward in the articulation of *l* and upward in that of *k* and *g*. By means of eighteen types based on these movements Gutzmann has been able to represent a succession of words. It is stated that by arranging these types properly in a stroboscope one may easily recognize the words they represent. Such a device, it is thought, will prove of material aid to the deaf and dumb in learning to understand spoken words by watching the speaker's articulation. This is said to be much easier when the speaker is viewed from the side than when he is observed face to face.—*New York Med. Jour.*

Suicide in European Cities.—Recent vital statistics show the following numbers of cases of suicide per 10,000 of population: Munich, 1.93; Berlin, 2.98; Vienna, 3.2; Brussels, 3.29; Paris, 3.6; Breslau, 3.91. The Vienna correspondent of *The Lancet* furnishes some interesting data concerning suicides in that city. In every 100 cases, 77 were men and 23 women. Adolescents appear to have even more frequent recourse to this method of terminating their real or supposed miseries, the highest rate being registered at the age of sixteen to twenty-five years. Among 100 suicides, 32.5 ended their days by hanging; 28.5 by pistol shots; 22.4 by poisoning; 5.8 by drowning. With respect to the poisons, cyanide of potassium was resorted to in 12.7 of the cases, caustic lye in 22.7, phosphorus in 26.1, and sulphuric acid in 7.2. As for seasonable distributions the proportions were: in January, 8.5 per cent; in February, 7.6 per cent; in March, 8.9 per cent; in April, 9.1 per cent; in May, 10.5 per cent; in June, 8.7 per cent; in July, 8.1 per cent; in August, 7.2 per cent; in September, 7.4 per cent; in October, 8.3 per cent; in November, 7.8 per cent, and in December, 7.9 per cent.

Strontium Salts in the Treatment of Albuminuria.—The *Journal des praticiens* contains an article on this subject in which the writer remarks that strontium salts induce a notable and often rapid diminution of albumin in the urine. They are, besides, indirectly useful in aiding digestion, especially in cases of Bright's disease, where the patients suffer from an excess of hydrochloric acid in the stomach. Strontium lactate is a good intestinal antiseptic.

According to Constantin Paul, says the writer, stron-

tium is useful only in the parenchymatous form of nephritis. It has no action whatever in the interstitial forms, in tuberculosis, or in renal syphilis. Gaucher and Gallois observed that strontium acted more readily on albuminuria than on the various other symptoms of Bright's disease. When the employment of the drug was suspended the amount of albumin increased until it reached the original proportion. It appears, then, says the writer, that, in cases of excessive albuminuria, where it is well to moderate the loss of albuminoids, strontium is especially indicated. Gaucher and Gallois recommend the following formula:

R. Strontium lactate,	-	-	750 grs.
Water,	-	-	11/16 ℥.

It is essential that the drug should be pure and free from barium oxide.—*New York Med. Jour.*

Ichthyol-Traumaticin in the Abortive Treatment of Erysipelas.—This remedy, first lauded by Juhel Renoy, is again brought into prominent notice by the same author and Bolognesi (*Bell. gl'n. de therap.; Brit. Jour. of Dermat.*) They maintain that in about sixty per cent of cases its action is really abortive. Three parts of ichthyol are dissolved in ten of traumaticin; the combination is a dark brown, thick liquid, which can be applied with a brush without producing marked disagreeable effects. The application should transcend the limits of the affected part by about three-quarters of an inch, and it is always desirable in erysipelas of the face or scalp to examine the ears very carefully, and, even if they are unaffected, to surround them with a broad band of the application as a protective.—*New York Med. Jour.*

Cardiac Troubles Due to Thoracic Deformity.—At a recent meeting of the *Societe medicale des hopitaux*, a report of which appears in the *Mercure medical*, M. Huchard presented a patient who suffered from palpitation and extra-cardiac murmurs which had supervened apart from rachitis and growth. The cardiac symptoms seemed to be due to a deformity resulting from the elongation of the thorax. The patient had been treated for hypertrophy of the heart, but this, said M. Huchard, had been relative only, and the elongation of the thorax had been the cause; in fact, there had been rather atrophy of the heart.

M. Marfan said that admitting that elongation of the thorax existed, he could not see what relation there was between the deformity and the cardiac troubles. M. Hayem remarked that so called cardiac symptoms were often due to dyspepsia. On the other hand, a hunchback often presented dyspnea and palpitation on the least effort. M. Marfan thought that hunchbacks who suffered with dyspnea often had lungs that were too small, and that this diminution was sometimes to half their normal size; from this the dyspnea and respiratory troubles arose.—*New York Med. Jour.*

MEDICAL REVIEW,

A WEEKLY JOURNAL OF MEDICINE AND SURGERY.

VOL. XXXIII.

ST. LOUIS, FEBRUARY 22, 1896.

NO. 8.

ORIGINAL ARTICLES

The Infiltration Method of Local Anesthesia in Genito-Urinary Surgery.

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Read before the St. Louis Medical Society, January 11, 1896.

In July, 1894, at the German Congress of Surgeons, (afterwards presented in the *Therapeutische Monatshefte*, No. 9, 1894), Dr. Schleich announced and detailed a new method of producing local anesthesia by the use of intra-cutaneous (rather than subcutaneous) injections of very dilute solutions of various drugs; and he indicated the distinctiveness of the method by terming it Infiltration Anesthesia. Later, in a monograph entitled "Schmerzlose Operationen," Berlin, 1894, the author treated the subject more extensively, and gave the results of its use in some three thousand operations, minor and major.

During 1894 the method received some attention from the American medical press, and was put to practical test by American surgeons. Dr. H. V. Wuerdemann, of Milwaukee, presented the subject in an admirable manner in the *Journal of the American Medical Association*, December 29, 1894.

The principle of the method consists in injecting intra-cutaneously certain solutions and dissipating the sensibility of the peripheral nerves by the pressure of the infiltrating fluid, by the anemia which it causes, and by the comparatively low temperature at which it is injected—three effects secured by the *fluid itself* rather than by any drug which it may contain. As a matter of fact, the drugs are of only incidental importance.

It has long been known that the injection of fluids in some considerable quantity would cause a deadening of

the sensibility of the part; but the induction of this insensibility has not been sufficiently controllable to place it within the limits of wide surgical practicability; and the initial pain to which it would give rise was another objectionable feature which discounted its usefulness.

By thought and much experimentation these problems, as well as others, have been practically overcome by Dr. Schleich; so that for the kind of surgery to which the injection of anesthetizing fluids is applicable, whether "minor" or "major," the use of the older cocaineizing methods is liable to be entirely superseded by the infiltration method; and the position of chloroform and other narcotics is already being assailed by those who have made practical use of it.

If a syringe needle be inserted obliquely into the skin, the point reaching just below the epidermal layer, and a few drops of the proper fluid be injected there, an elevated wheal, looking like a mosquito bite, will be the result; and tests with a needle or knife immediately afterwards will show the entire area of the wheal to be absolutely insensible, while the sensibility of the skin immediately beyond the edematous area is not altered in the least.

Experimentation has shown that the promptitude and practical efficacy of the anesthesia so produced depend on several factors: (1) The density of the fluid used; (2) The character and strength of the drug or combination of drugs embodied in the solution; (3) The temperature of the latter; (4) The condition (of health or disease) of the tissues to be anesthetized; and (5) The maintenance of complete edema of the tissues to be operated upon.

DENSITY OF THE FLUID.—It has been found that a physiologic salt solution, 0.6 per cent would cause a wheal but not an anesthetic one; while a 0.2 per cent salt solution produced sufficient anesthesia to allow of the removal without pain, of a nevus from the neck of the eminent Dr. Bergmann. Solutions of sugar, 8 per cent; potassium bromide, 3 per cent; morphine, 0.1 per cent; carbolic acid, 0.5 per cent; and caffeine, 2 per cent, all show markedly anesthetic effects, while above and below those strengths they become irritative and painful. This develops the second named factor:

THE CHARACTER AND STRENGTH OF DRUGS USED.—While it is a fact that the various agents mentioned will produce the anesthesia after a certain length of time, the first and primary effect of some of them is irritative, and they excite pain until their secondary anes-

thetic effect begins to prevail. In order to obviate this difficulty, use is made, in the formula, of certain drugs (cocaine, morphine) which, in proper strength, have an immediate anesthetic effect, thus doing away with the transient irritative effect of the other, secondarily, anesthetic drugs in the combination. This is especially important when considered in connection with

THE CONDITION (OF HEALTH OR DISEASE) OF THE STRUCTURES TO BE OPERATED UPON.—While the difference in the primary irritative and the secondary anesthetic effect may not be so sharply marked in the normal, healthy tissues, as in the removal of a nevus, in the case of inflamed structures (crucial incision into a carbuncle) it is markedly prominent; and unless it were prevented it would defeat the purpose and advantages of the method. Happily, this is accomplished in either of several ways: (a) by using such drugs in the combination (cocaine, etc.), as have an immediate anesthetic effect, even though diluted to the degree mentioned; (b) by beginning the anesthesia in healthy structures and continuing it by successive injections into the unhealthy ones; (c) by producing a temporary spray-anesthesia on the inflamed structures, sufficient to allow of the introduction of the infiltrating fluid. Of these, the first will be found to be the most commonly useful; and it is for that reason, chiefly, that cocaine is used at all. However, the point must be emphasized that though cocaine is used in this way, it is vastly different from the manner of using it hitherto in vogue; since, instead of using a strength of from two to twenty per cent, the strength entirely capable, by this method, of producing the anesthesia desired, is that of one or two *hundredths of one* per cent; and instead of a very few drops producing a toxic (perhaps a highly dangerous) effect, one, two or three *ounces* may be used without the slightest systemic symptom.

TEMPERATURE OF THE INJECTED FLUID.—It has been observed that the same strength of solution, when used cold, is much more highly anesthetic than if it is warm. For this reason, it is advised to keep the bottle of fluid on ice before and during the operation.

COMPLETE INFILTRATION.—Every tissue of the body, without exception, (skin, muscles, glands, mucous membranes, nerves, etc.), becomes insensible to pain when infiltrated in the manner described. This obtains for bone and the hard structures as well as for the soft ones. Bone is reached either by infiltrating its periosteum or by injecting into the medulla. Nerve trunks are anesthetized separately, first by applying five per cent carbolic acid solution, and then, through this, inserting the needle and fluid.

Only the infiltrated, artificially edematous tissue is anesthetic, the tissues outside of which retain their normal acuteness of sensibility. Consequently, in the course of an operation, with the absorption of the infiltrated fluid it is necessary to renew the injections or extend their area coincidentally with the operative field. After infiltration the anesthetic condition lasts from fifteen to twenty minutes.

With the proper fluid anesthesia ensues immediately upon its being introduced into the tissues, and lapse of time is not requisite for developing insensibility. This, again, is in marked contrast to the effect of the older methods of producing anesthesia. Its advantage is great.

HEMORRHAGE.—Anemia being one of the effects of this method, it may be supposed that there will be less bleeding (oozing) than under ordinary circumstances. This is the case. And distortion of the tissues from the infiltrated fluid does not cause any especially increased difficulty in securing and tying or twisting bleeding vessels.

FORMULÆ.—In his various surgical procedures, Schleich finds the following three solutions of graded strengths to answer all purposes:

STRONG SOLUTION, No. 1.

R. Cocain. Muriat..... gr. iij.
Morph. Muriat..... gr. $\frac{1}{2}$.
Natr. Chlor..... gr. iij.
Aq. Dest..... ad $\mathfrak{z}$ iij.
M. Sterilisat., adde Sol. Acid. Carbolici, 5 per cent,
gtt. iij.

MEDIUM-STRENGTH SOLUTION, No. 2.

R. Cocain. Muriat... gr. jss.
Morph. Muriat..... gr. $\frac{1}{12}$.
Natr. Chlor..... gr. iij.
Aq. Dest..... ad $\mathfrak{z}$ iij.
M. Sterilisat., adde Sol. Acid. Carbolici, 5 per cent,
gtt. iij.

WEAK SOLUTION, No. 3.

R. Cocain. Muriat..... gr. $\frac{1}{6}$.
Morph. Muriat..... gr. $\frac{1}{12}$.
Natr. Chlor..... gr. iij.
Aq. Dest..... ad $\mathfrak{z}$ iij.
M. Sterilisat., adde Sol. Acid. Carbolici, 5 per cent,
gtt. iij.

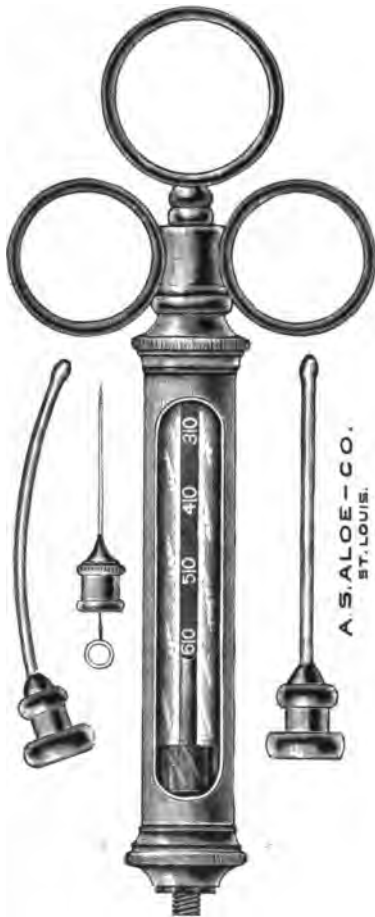
Solution No. 1 Dr. Schleich uses for operations on inflamed or hyperesthetic areas; No. 2 for most operations; No. 3 for superficial operations on nearly normal tissues.

To carry out the aims of asepsis, he recommends that only sterile solutions be used; and to this end he advises that the reservoirs be sealed with scorched cotton stoppers, and that from these smaller vessels should be filled at the time of operating.

I have made use of the infiltration method in operating on buboes (enucleation); in opening a prostatic abscess through the perineum; in circumcisions; perineal urethrotomy without a guide; operations for radical cure of varicocele, hydrocele, hernia, and other procedures connected with genito-urinary surgery.

In working in superficial structures the effect of the method as applied with the ordinary syringe is all that

one could wish for and beyond criticism. But in the deeper parts of wounds, such as met with in evacuating prostatic abscess, enucleating buboes, etc., with the ordinary hypodermic syringe-needle there is material danger of puncturing or wounding the larger vessels of the neighborhood, or of running the sharp needle into structures which it is not desired to enter. For the purpose of obviating this danger, as well as to facilitate the application of the fluid in such deeper tissues, I have devised the accompanying syringe and needles. The barrel of the former is made especially large. The



THE BRANSFORD LEWIS INFILTRATION SYRINGE.

needles are made of German silver; their especial feature, however, is the rounded end, or probe-point, which, though small enough to enable them to penetrate connective or muscular tissues, prevents their piercing such structures as veins, arteries or large nerves. Consequently one can work with them with rapidity and impunity; and the field for the application of the method is very considerably enlarged thereby. The A. S. Aloe Company, of St. Louis, has kindly constructed the instrument for me.

The after-pain I have not found to be greater than with other modes of anesthesia; and the other disagreeable after-effects of general anesthesia are, of course, avoided. Two of my patients were over sixty years

old, yet they felt as well after as before the operations. No symptom of intoxication has become evident in any case that I have observed, and I have not been sparing in the use of the fluid.

1006 Olive Street.

How to Cure Acute Middle-Ear Disease More Quickly.

BY ROBERT BARCLAY, A.M., M.D., ST. LOUIS,

Member of the American Otological Society; Formerly Assistant Aural Surgeon, New York Eye and Ear Infirmary, New York, Aural Surgeon St. Louis City Hospital, Missouri Pacific Railway Hospital, St. Louis Baptist Hospital, St. Mary's Infirmary, South Side Dispensary, Mariae Consilia Deaf and Dumb Institute, House of the Good Shepherd, Etc., Etc.

Read before the St. Louis Medical Society, January 11, 1895.

MR. PRESIDENT AND GENTLEMEN.—It would, manifestly, be as futile as inopportune were I, on this occasion, to attempt to dissuade from certain aural therapeutic procedures any who, notwithstanding the teaching of ample personal experience, persistently ignore their inexpediency—assuming as *the criterion of expediency*, of course, *the greatest probable benefit to the patient*. I would, therefore, address my remarks to that large and respected class of physicians whose manifold exacting duties, without the pale of aural practice, necessarily render them therein—from insufficient leisure—somewhat more dependent upon example and precept—the vanguard of the medical profession—the aural practitioners. And here I would disclaim any desire to cast the slightest reflection upon those of your number, who, with the light given you, and, in prudent conservatism, still cling to a once generally approved therapeutic procedure of whose disadvantages you have not yet been made sufficiently aware; but would rather offer you a suggestion thereupon, which a practical experience, somewhat more extended than your own, has led me to believe may greatly aid you in affecting more prompt and satisfactory cures of that variety of dangerous and agonizing ear-disease doubtless met with by you most frequently.

In your study of that wonderful piece of mechanism, the human ear, so delicately adjusted for the transmission of sound-waves, you must have been impressed with the wisdom and beneficence that made such extraordinary provision for its protection from, and resistance to, the force of violence *from without*. It may not, however, have been so closely marked by you that Nature seems to have deemed it inexpedient to make a like provision with respect to the noxious influence of our own ignorance and folly *from within*. The more you familiarize yourself with the peculiar construction of the ear, the more will you wonder, not so much that it should be injured so infrequently by violence *from without*, as that it should not always so suffer from like

force *from within*; and will marvel that the unexpected, vigorous *snort* of the mischievous schoolboy, or that of his pulmonic sire, for example, should not be, in the usual retributive course of events, invariably attended by an *actual* splitting of *his own* ears. But, although a merciful providence may see fit to spare the ear of the fool, who intentionally blows a natal blast almost sufficient to "*wake the dead*," less leniency seems to be shown to other people, innocent enough, and occasionally serious injury afflicts them from pneumatic distension far less violent than that.

Now, the pressure upon the ear in blowing the nose is equal to that exerted in what is technically termed "*Valsalvan Inflation*." This latter procedure, as you well know, is affected by the patient, where the Eustachian tube is pervious, by stopping his nose and mouth, and then compressing the air within his upper respiratory passages by enforced expiratory effort, whereby, of course, the tympanic air is condensed and the drum-head distended. As the pressure on all parts of a common air chamber is everywhere the same, the degree of force exerted upon the soft parts of the ear drum, here, is determined by that exercised by the patient's expiratory muscles of respiration. This, in simply blowing the nose, is frequently sufficient to injure the ear, sometimes bursting the drum-head and producing very serious aural inflammations. In proof of this assertion, the following cases are submitted; your attention being requested particularly to the fourth and last case, inasmuch as it is deemed in itself a mute, but eloquent, appeal to your judgment in behalf of my subsequent suggestion:

CASE I. (No. 1104272).—This man, forty two years old, had been under treatment, elsewhere, "for throat and chest," he said, for about eight weeks before our consultation and had "had a cold for several years back." About twenty years before he had contracted syphilis.

One week before the consultation, he had blown his nose very hard, noticing then and thereafter on blowing his nose the escape of air through his left ear, as a "perforation-whistle," so-called, which is generally considered pathognomonic of perforated drum-head. This symptom had then persisted. Previously he had never had any aural disease whatever. Since the day before the consultation he had pain in this left ear, but at no time had he ever noticed the slightest discharge from it.

On examination, a perforation was found in the drum-head, through which had oozed some purulent secretion, found in the depth of the auditory canal.

Treatment effected a prompt cure.

CASE II. (No. 403537).—This youth, seventeen years old, had been suffering slight pain in his left ear for two or three days, when, upon blowing his nose very hard, he felt some peculiar change take place in his left ear; a buzzing sound began at once, and a little later a discharge was discovered at the outlet of this ear. These symptoms, with a slight pain, had persisted until our consultation, two weeks after the injury.

In the examination of his oro-pharynx, on that occasion, shells only of the roots of the left lower first molar tooth were found, a nidus which had probably caused the original earache, irritation having been reflected upon the dental branch of the inferior-maxillary division of the trigeminus nerve, along the auriculo-temporal branch of the same nerve, to the ear. The left drum-head was inflamed, and in its antero-inferior quadrant there was a perforation through which pus from the middle ear was oozing.

Under treatment he made a rapid recovery.

CASE III. (No. 404646).—This man, twenty-two years old, had been under treatment for acute articular rheumatism one month before our consultation. During the third week of that illness an acute coryza had developed. One morning, about the end of that week, he, as he expressed it, "blew his nose so hard that it hurt his right ear, then and afterwards, whenever he blew his nose." That same morning the aching ear began to discharge "blood and water," as it seemed to him. He had noticed no tinnitus—"noise," as he termed it—but complained of the reverberation of his own voice in the affected ear, and of "a feeling" on swallowing "as if the 'throat' on that side 'gagged him.'" He stated, also, that after the injury a jerking earache had set in, which had persisted without intermission until our consultation, one week later. Peroxide of hydrogen had been instilled into the affected ear on the day following that of the injury.

On our first examination, the depth of the auditory canal was found filled with pus which had escaped from the middle-ear through a perforation of the drum-head at the junction of its antero-superior or inferior quadrants. The drum-head itself was bulging and highly inflamed.

Under treatment the injured ear soon healed.

To the fourth and last cases, which follows immediately, I ask your special attention.

CASE IV. (No. 104247).—This patient, 25 old, injured his right ear about seven and one-half weeks before our first consultation. Previously, at times, he had been in the habit of cleansing his nares by sniffing up water, sometimes containing table salt in solution. Whether or not he had done that upon this particular occasion is not known, but it is certain that while at his toilet one morning he blew his nose so hard that he felt something give way in his right ear, and experienced pain therein, which persisted, being attended with tinnitus autophony, vertigo and an aural discharge. He immediately sought medical aid, and for nearly eight weeks, then took treatment, twice a day, at the hands of a popular specialist of this city. The patient affirmed that amongst the remedial procedures to which he submitted during that time was frequent tympanic inflation with the Politzer bag, until he was compelled to protest on account of the pain caused by it; and applications of nitrate of silver to spots of so called "granulation tissue (?). Instead of improving he had grown steadily worse from the very onset.

At our first consultation this was found to be his condition: The right side of his head felt different from, and as if heavier than the left; and something indefinite felt wrong about the mastoid. He was feverish. Pain in his head and right ear; autophony, tinnitus and vertigo were severe and increasing. His bowels were constipated, his fauces inflamed and frothy. He had considerable dental irritation, particularly from a dead tooth on the affected side.

On aural examination, his right drum head was found thickened, macerated, severely inflamed and bulging, its recesses, so to speak, being filled with "caked" and "soaked" epithelial debris; and there were two perforations in it, both surrounded by the so called "granulations" that had been "touched with nitrate of silver." One of these perforations was in the anterior segment, about one eighth of an inch from the periphery of the drum head, just below the level of its center; the other in the posterior inferior quadrant, close to the periphery of the drum head, apparently almost on a line with what would have been the long axis of the handle of the malleus in its normal position. The flaccid membrane, also, was bulging and highly inflamed. And in all, the aural disease seemed to have become already deeply and firmly implanted in all parts of the middle-ear tract, mastoid included. It seemed fully established and grave in character beyond the severity of the symptoms; and the patient was deemed a very sick man. It was too late, as experiment proved, to allay the inflammation by the milder means, necessity compelling resort to surgical interference with the drum-head, flaccid membrane, canal-wall and mastoid; after which, however, he promptly and fully recovered.

With these cases in evidence that the explosive force of the respiratory muscles in Valsalvan inflation is sufficient, of itself, to seriously injure the delicate structures of the ear and to light up severe inflammation, I would now direct your attention to a therapeutic procedure, kindred to "Valsalvan Inflation"—similar, but more powerful in effect—which, even with many who profess to be special aurists and whose experience must certainly have been sufficient to have taught them better, seems to be still popular for indiscriminate use upon all varieties of middle ear disease, acute as well chronic. I allude to the so-called "Politzer Inflation"—a therapeutic resource as humane and indispensable, in its proper place, as obstetrical-forceps-delivery, hypodermatic injection, or any other of the thousand means, potent, in our hands, for good or evil.

Now, you are aware that in this procedure for increasing intra-tympanic air pressure, when the Eustachian tube is pervious the pneumatic chamber of the air bag, nose, Eustachian tube, tympanum, antrum and mastoid are, as the patient swallows, one and continuous; and that, at this moment, the air bag is forcibly compressed by the hand of the physician. Bearing in mind, now that the pressure thus produced—that is, with condensation of the air—bears equally upon all parts of the common pneumatic chamber, and that the force exerted

is that liberated by the muscles of the physicians fore arm and hand—more powerful, by a great deal, than the muscles of expiration—we can readily comprehend why the delicate structures of the aural transmitting mechanism are far more likely to be shocked and injured by that Viennese air-blast, than by the mode of Valsalvan Inflation, already described.

What do you conceive to be the probable effect of this increased pressure upon an ear in a state of acute catarrhal or acute purulent inflammation, where the delicate structures have become exquisitely sensitive to jarring, or to any direct mechanical interference; where the middle-ear tract, comprising the Eustachian tube, tympanum, antrum and mastoid cells, is gorged with mucous or with pus almost to the point of bursting the drum-head; or where the profuse over-secretion of the middle-ear-tract is with difficulty forcing its exit from the pharyngeal orifice of the inflamed Eustachian tube, or through a minute perforation in the drum head? What, I repeat, do you conceive to be the probable effect of that pneumatic catapult upon an ear in this condition? Can you wonder that a patient so afflicted shrinks in dread at the sight of a Politzer air-bag, after it has once been applied—misapplied in his case? Why is this measure persisted in so generally, here, when theory and practice, common sense and experience, proclaim its unqualified inexpediency? "But," it may be contended, "it's popular, you know"—or "don't you know!" Well, what of it? Brutality is not popular! Neither is idiocy! Yet this procedure, which causes needless pain and does not hasten cure, is in so far brutal and idiotic therapeutically, at least. Why, then, should it remain popular? And why should not the family physician insist upon having it kept off his patients who have acute otitis media? Surely it is time to call a halt to this therapeutic outrage! And everyone, who, by attention to the teachings of personal practical experience in the field of aural practice, has become convinced of this, should raise his voice in protest in the interest of those of his professional brethren whose opportunities for discovering this truth are less extended and less favorable than his own—and for humanity's sake, no less.

I am not alone in believing that this procedure here adds but fuel to the flames, that it aggravates suffering and the intensity of the disease; that it forces morbid elements into deeper parts; that it is responsible for unnecessary thousands of mastoid disease, and that it materially prolongs the patient's illness and increases the risk of disability and death. Notwithstanding its seeming popularity, the more prudent are more avoiding it in acute middle ear diseases.

It is with genuine satisfaction that I am able to quote, in support of my position, the opinion of two of our most distinguished American Otologists.

Dr. Samuel Sexton, of New York, late Aural Surgeon to the New York Eye and Ear Infirmary, in discussing the treatment of acute otitis media, in his work on "The Ear and Its Diseases," page 240, says: "Should inflation of the tympanum, either by the air-bag or by the Val-

salvan method now be accomplished, the forcible entrance of air may not only be painful, but also harmful. These procedures, often employed to improve the hearing in chronic cases, are of doubtful value in acute inflammation of the middle ear."

And Dr. Charles H. Burnett, of Philadelphia, author of the celebrated "Treatise on the Ear," and editor of the "System of Diseases of the Ear, Nose and Throat," an aural surgeon of immense practical experience, thus declares himself to the American Otological Society (and the *emphasis is his own*); "I have long since found it advisable *never* to inflate the ears, by *any* method, in either acute nasal or aural diseases, because I have found it both painful and injurious."*

To those among you who may happen to prefer to avail yourself of the services of the aural surgeon in all your cases of acute middle-ear disease, I would respectfully intimate that you owe it to yourselves, as well as to these patients, to exercise your prerogative so far as to see to it that the specialist whom you may have seen fit to recommend, does not discredit you by the employment of a therapeutic method so obviously inexpedient as this.

To those of you, however, who prefer to extend your own usefulness still further in this instructive field of aural practice, I beg to offer this suggestion—the theme of my address:

In acute middle-ear diseases never inflate the ear by any method whatever.

In conclusion, it is hoped that this may prove of practical value, notwithstanding the manner of its presentation, and I thank you for your kind attention.

3211 Lucas Avenue.

Thoughts on Cataract.

BY JAMES MOORES BALL, M. D., ST. LOUIS.

Read before the St. Louis Medical Society, January 11, 1896.

In preparing a short paper for this Society I desire to call attention briefly to operations for cataract. To open the subject without further delay, permit me to say:

1. Congenital cataract should be needled at the earliest possible moment.

2. Traumatic cataract, in which there is rapid swelling of the lens, increased intra-ocular pressure and shallowing of the anterior chamber, should be extracted by a broad incision made with the Graefe knife. Per contra, the old linear operation which is yet described in all the ophthalmological text books, should not be performed. The very nature of linear extraction is such that it can diminish intra-ocular tension temporarily only and the evacuation of lenticular fragments *in toto* is impossible.

3. Immature cataracts should be ripened artificially

by direct trituration and afterwards extracted by the combined operation (*i. e.*, with iridectomy).

4. Cataracts which are matured by nature should be extracted always without the iridectomy, if the patient be intelligent, in good health, and provided always that a specific indication for the performance of an iridectomy does not exist.

5. The occurrence of iris prolapse during the delivery of the lens is always to be expected; but it can readily be replaced by gentle stroking the iris with a delicate spatula. The iris can generally be kept in place by method of Eugene Smith, (hypodermatic injections of morphia) or by the use of eserine solution.

6. The eye operated on should be examined at the end of twenty four hours and if iris is found between the lips of the corneal wound chloroform should be given and an iridectomy be made at once. In my opinion it is wrong to wait in such cases for four, five or ten days, as some writers advise. The making of an immediate iridectomy lessens the danger of cystoid cicatrix while it does not increase the danger of infection.

7. In every eye operation the principles of aseptic surgery should be observed. Not only should the instruments be boiled, and the hands of the operator be clean, but the cocaine solution should also be boiled, likewise the glass tube of the eye dropper. The conjunctival cul-de-sac should be washed out thoroughly with a 1:3000 solution of bichloride of mercury; the eyelids, eyebrows and face, after having been washed with soap and water, should be covered with a bichloride pack for thirty minutes before operating. After the extraction it is my practice to apply to the operated eye a bichloride pack, kept moist with bichloride four days, being changed daily. I am partial to the wet dressing in all cases in which the eyeball is opened.

8. Atropine should not be used within a week preceeding a cataract extraction, for it increases (*a*) the danger of loss of vitreous, and (*b*) the danger of iris prolapse. It is my custom to drop one drop of a four grain solution into the eye the third day after the extraction. Sometimes, when there is a small pupil and especially if any cortical matter has been left behind, use it on the second day, *i. e.*, twenty-four to thirty hours after the operation. Its use in these cases lessens the danger of iritis, and of adhesions if iritis develops.

9. In cases demanding the needling operation the use of atropine before the operation is absolutely necessary to secure the field in which to work and remove the iris from danger. Thus, in congenital cataracts and in needling of the posterior capsule in senile cataracts, the use of atropine is necessary.

10. Secondary operations for membranous cataract should be made only after all signs of irritation following the extraction have disappeared. Then, with a dilated pupil and good illumination, the sharp knife-needle of Knapp should be used to cut the posterior capsule. It is better to repeat the operation in a few weeks than to exert too much traction at one sitting.

*Trans. Amer. Otol. Society, New Bedford, Mass., 1895, p. 203.

11. It is unnecessary to close the unoperated eye.
12. While it is a distinct advantage for the surgeon to be ambidextrous, good work can be done with one hand.
13. Great care should be used in the fitting of glasses after an operation for cataract. Often the visual power gained by using a convex lens can be markedly increased by correcting the astigmatism caused by the operation.
14. With modern methods of technique, a surgeon should save ninety-eight out of one hundred eyes operated on.
15. In cases of diabetic cataract the prognosis depends largely upon the general condition of the patient. As a rule wounds in diabetics do not heal kindly. Diabetic cataract develops mainly in those persons whose urine contains a large amount of sugar, and the cataract matures rapidly.

Evil Results of Nasal Applications.—Bischoff (*Therap. Monatsheft*) concludes his summary of the evil results of applications to the nose and throat (see *Epitome*, November, 2, 1895, par. 354, *Brit. Med. Jour.*). In operations on the nose repeated hemorrhage, though controllable, may so prolong the operation that fatal collapse from anemia of the brain may occur; he has also seen temporary mental disturbance from the same cause. Tampons are seldom required for arresting hemorrhages, but when used they should never be allowed to remain *in situ* more than twenty-four hours; they are especially to be avoided where the object of operation is to give free exit to pus. Toxic results from cocaine were seen in only 2 out of 1,000 persons in whom a 20 per cent solution was used for spray. Nervous sequelæ, for example, vertigo, asthma, even Graves' disease, have been observed after nasal operations. The occurrence of diphtheria after operation on adenoids was noted twice in spite of the utmost care in antiseptics; in this operation where anesthetics are used, care must be taken to prevent blood being sucked into the air passages; forceps are preferable to the curette, as the former grasp the adenoid tissue and prevent its falling into the larynx. In granular pharyngitis too free use of the galvano-cautery has aggravated the distress by the dryness and various forms of paresthesia resulting from the scarring. Tonsillotomy rarely causes dangerous hemorrhage in children, but in advanced life arteriosclerosis causes risk, on account of which some authorities have abandoned tonsillotomy altogether in adults, using instead the galvano-cautery, either for puncture or for surface cauterization. This, however, entails tedious repetition of operation, and tonsillotomy is to be preferred provided that all preparation is made for dealing with serious hemorrhage. Local applications to the larynx are occasionally followed by even fatal results, the fluid used dropping on to the interarytenoid fold and setting up spasm of the glottis; or, by the use of too strong solutions of caustics, edema glottidis may be produced.

MEDICAL REVIEW.

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PUBLISHED UNDER THE AUSPICES OF THE
MEDICAL REVIEW ASSOCIATION

BY O. H. DREYER.

YEARLY SUBSCRIPTION, \$3.50. SINGLE COPIES, 10 Cents.

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Entered at the St. Louis Postoffice as Second-Class Matter.

Roentgen's X Rays.

There are few truly scientific discoveries which have created such a universal interest among all classes of society, the educated as well as uneducated, as the photographic reproduction of objects which have heretofore been inaccessible to vision or photography because the rays of light with which physicists have been acquainted until recently are totally refracted by and do not pass through materials which offer little or no resistance to the newly discovered rays of electric light. The role which this discovery will probably be destined to play in medicine and surgery justifies a closer inquiry into the truth and fiction of what has so far been published upon the subject.

The enormous exaggerations of some newspapers, the bombastic, unjustified, ignorant or untruthful statements of some men who have been interviewed by representatives of the press, the fanciful and romantic pic-

turing of possibilities, the ridiculous and fraudulent claims of unscrupulous charlatans, all of them furnish a sad commentary to the successful solution of a scientific problem, by a well-known and thorough scientist and patient and honest investigator.

In newspaper reports it has been claimed, as soon as the new invention was discussed in the daily press, by no inferior authority than Edison that he expected to be able to transmit by telephone (!) the newly discovered rays, the X rays, as they have been provisionally named by their discoverer, Prof. Roentgen. Edison and others have been reported as having said that they expect to be able to photograph the brain by means of these rays; still others have promised to cure all kinds of ailments by the use of the rays.

We shall try to sift the sober truth from fiction and exaggeration; giving only the facts upon the subject, as far as they appear to be known, and avoiding all phantastic and unjustified conclusions as to future possibilities in the application of the new discovery.

In justice of those who have drawn enthusiastic conclusions, based upon the invention, we must admit, however, that, as the electric light and the telephone are inventions, the scientific principles of which were known to physicists a long time before they were made use of in practical life, the new discovery, when perfected, may hold out hopes as to practical usefulness, the extent of which future investigations alone can reveal. As far as practical results in the field of medicine are concerned it appears that in detecting or verifying certain pathological processes of bone, fractures, localization of foreign substances, bullets, needles, etc., the X rays have already been of much assistance. Under what circumstances the invention of photography by means of the newly discovered rays will be of use to the physician, we shall also attempt to indicate to the extent of our present information.

What may be said of most, if not all inventions, is equally true of the discovery of the rays called X rays by Prof. Roentgen, and Roentgen's rays by many of his colleagues: it has had its forerunners. Lenard observed as long as two years ago that certain electric rays were capable of passing through pasteboard. But Roentgen is credited by physicists with the discovery of the X rays and their practical and scientific application in photography. It is, moreover, claimed by those best able to judge that the electric rays experimented with by other physicists, including Lenard, are not identical with the X rays of Roentgen. Lenard's rays differing from those of Roentgen in showing no deflection when subjected to the influence of a magnet. Roentgen's X rays are produced by passing an electric discharge through a Crooke's tube, which, as is well known, is a closed glass tube from which the air has been evacuated and into which a platinum wire is sealed at both extremities.

If through this tube, after being covered with black paper, and connected with a large Rumcoorff coil, an electric discharge is passed in a dark room, a metal

screen covered on one side with barium platino cyanide and placed within two meters from the tube—will light up with fluorescence, no matter whether the side covered with barium platino-cyanide is fronting toward the tube or not. This result proves that light-rays of some kind have passed through the black paper as well as through the metal of the screen when the side covered with the barium salt is not directed towards the tube. These rays pass from the kathode wire of the tube and are therefore also called kathode rays.

Other investigators—Zeuger, Hertz and Lenard—have been experimenting with kathode rays, and Lenard came very near discovering the same process of photography with the X rays, when he found that the rays from the negative pole of a vacuum tube fitted with an aluminium window would act upon a sensitive plate.

The X rays pass through every substance, but in a very different degree. Thus, they do not pass through metal, excepting very thin layers. They pass more readily through aluminum than any other metal. Glass, which is so readily penetrated by ordinary rays of light, the X rays hardly penetrate at all. Wood, cork, flesh, skin, paper, printers' ink, ebonite, vulcanized fibre, cardboard, slate, leather, are all easily penetrated by them. The application of the new invention to surgery is based upon the fact that the skin, muscles, arteries and nerves are much more readily penetrated than bone. Pathological processes in bones, by which the salts of lime are dissolved out are shown in photographs taken with the X rays.

Bullets and needles have been successfully photographed deeply in the tissues of the body. As nerves and bloodvessels, as well as all other soft parts of the body are easily penetrated by the rays, it is impossible that these structures should appear in the photograph, only the parts, such as the skeleton and calcareous deposits and deformity of bones, which offer a greater resistance to the penetration of the rays, are shown in the photograph in black, while the parts penetrated are of a lighter shade.

The difference in the penetrability of most tissues other than the skeleton is not sufficient to produce a photograph in which the various tissues can be defined with any degree of clearness.

The reports from scientific centers where the new invention has been adopted to medicine and surgery are by no means of slight importance. A gall-stone was plainly seen by Prof. Neusser through liver tissue four inches in thickness. Stones in the bladder the same author has located and diagnosed as to consistency. The stone composed of phosphates does not allow any rays to pass through its substance, it appearing, therefore, black in the photograph. The cholestearine stone, allowing the rays to pass in a slight degree, appears in a lighter shade.

From Berlin comes the news that a swallowed needle has been successfully located in the stomach and successfully removed by a surgical operation. Prof. Mosetig, of Vienna, has taken photographs which

showed with greatest clearness and precision the injuries caused by a revolver shot in the left hand of a man and the position of the small projectile. He also detected the position and nature of a malformation in the left foot of a girl with entire success.

Prof. Lannelongue, of Paris, has also been engaged in the application of the new invention at the Trousseau Hospital, and assisted by Mr. Oudin and Mr. Barthelemy, who have made the first researches in France on the Roentgen discovery, has submitted to the Academy of Sciences several negatives of human limbs. One of them representing a diseased thigh-bone of which the central portions had been penetrated by light; appearing as white blotches on the plate.

The second photograph is that of a tuberculous affection of the bone in a child's hand. The disease had been diagnosed, but photography brings complete confirmation to the diagnosis. The first phalanx has become thicker than the corresponding phalanx of other fingers. The thickening of the periosteum comes out distinctly. The second phalanx, more transparent than the corresponding bones of the other fingers, is probably the seat of incipient decay.

The third negative is less satisfactory—whether from insufficient exposure or because the part was preserved in alcohol for several years. It is a hand showing tuberculous disease of the wrist. Still, the diseased part is distinctly shown in the white spot. Prof. Lannelongue is of the opinion, that these results, being defective on account of imperfect appliances, showed that the new photography would probably render great services in surgery.

From Zürich, where Prof. Roentgen received his diploma as a doctor of philosophy, the Professor of Physics of the Zürich Polytechnicum, Mr. Pernet, demonstrated before a meeting of two hundred and fifty physicians the application of Roentgen's photographic process. The skeleton of a mummified hand was reproduced with the aid of an aluminum plate with great exactness. An arm in which the brachial artery had been injected with cinnabar showed very plainly the artery and some of its manifestations. In England and this country many clinical experiments have also been successfully conducted with the X rays and the excitement and enthusiasm appears to run high in all scientific circles as well as among the laity. What may be in the future accomplished by further study of the physical and chemical properties of the X rays nobody can tell. Such facts as, for instance, the comparatively easy penetration of the rays through slate and the most difficult penetration of glass may lead to a greater knowledge of the physical properties of matter; they will undoubtedly furnish an important link in the chain of evidence which may lead to a more exact and thorough understanding of the kinetic energies in general.

This newly discovered manifestation of that energy which pervades the whole universe is, like all other kinetic energies, explained by physicists to depend upon vibrations of the hypothetical, all matter pervading

ether. Whether the ether vibrations of the X rays are to be looked for in the infra-red or ultra-violet rays of the solar spectrum or whether they differ in some of their physical properties from the solar rays and are to be classed as entirely distinct from these, is, at the present stage of enlightenment, still a matter of conjecture.

Roentgen's rays differ entirely from the ordinary rays of light by readily passing through substances which are impenetrable to other rays of light. They are not, as already stated, deflected by a magnet and are not influenced by passing through a lens or prism; in other words, they appear to be non-refrangible. On the other hand, however, the X rays seem to bear a certain relation to ordinary rays of light in the production of fluorescence and shadows and in their chemical action.

At present there appear to be two theories offered in explanation of the newly discovered phenomenon. That of Roentgen and that of Schuster. In honor of the discoverer we will give precedence to the theory of Roentgen who made the following statement at a recent meeting of the Würzburg Physico Medical Society: "It has been known for a long time that in addition to the transverse ether-vibrations of light longitudinal vibrations are also possible and, according to some physicists, they must necessarily occur. It is true that their existence has not been demonstrated and their properties have not been experimentally investigated. Now, may it not be possible that the X rays may be due to longitudinal ether-vibrations" (i. e., vibrations, the motion of whose ultimate particles is parallel to the direction of the projected rays of light in contradistinction to the transverse vibrations of ordinary light the motion of whose ether atoms is perpendicular to the direction in which the light is propelled.—Ed.). "I must confess that, in the course of my investigations, I have been making myself familiar with this idea and therefore take the liberty of expressing my supposition, although I am well aware that the proffered explanation needs further substantiation."

Professor Roentgen argues that the X rays, being non-refrangible, may possibly move with equal velocity in all media, and, therefore, in some all-pervading medium, such as the hypothetical ether, irrespective of the grosser matter occupying the same space. It is claimed by physicists that the hypothesis of a longitudinal vibration of rays would explain the passage of light through solids. Nevertheless it is only what always occurs under similar circumstances, as long as an hypothesis can not be experimentally proven, that other hypotheses are advanced, and that of Arthur Schuster, above referred to, tries to explain the strange phenomenon not by longitudinal vibrations, but by transverse vibrations as those of ordinary light, which are of such small amplitude that they can penetrate all bodies with the same velocity.

* *

Whatever great possibilities Roentgen's discovery may hold out to speculative minds, the very nature of

the X rays of readily passing through all soft parts of the animal body seems to exclude the possibility of such phantastic statements as the ability of photographing the brain or other soft structures of the body by means of the newly discovered process; although by very sensitive plates it may become possible of improving the present, comparatively marvelous and surprising results. Other physicists have been engaged with similar experiments and came more or less near, as is frequently the case under similar circumstances, in making the same discovery; but Roentgen's merit is centered in the fact that when he accidentally discovered that the X rays of a Crooke's tube, passing through an opaque substance, exerted a chemical action upon a photographic plate, he understood the importance of this phenomenon and at once grasped the opportunity of making practical use of his observation. In this he has succeeded in a degree which has ensured the immortality of his name which now is in the mouth of all, the educated and uneducated, adults and children.

TRANSLATIONS.

BY EDGAR THOMPSON, M.D.

Pilocarpine Hydrochlorate in Diphtheria.

—Barsky says the serum therapy of diphtheria has caused all the other therapeutic agents to be relegated to the rear. While antitoxin has demonstrated its fitness to stand at the head of remedies, it does not imply a disuse of the other agents and, according to Barsky, pilocarpine is a valuable coadjutant to the serum (*Watch; La Presse Medicale*, January 22, 1897). The author draws his conclusions from a personal observation and treatment of 95 cases of diphtheria. According to the treatment instituted he divides the cases into four categories:

1. Those which were treated with pilocarpine exclusively.
2. Those in which pilocarpine and antitoxin serum were used simultaneously.
3. Cases treated with serum alone.
4. Cases in which neither the serum nor pilocarpine was used.

Forty-eight cases were treated with pilocarpine alone and in the series there were 8 deaths, or 16.66 per cent. Seventeen patients were treated with the combination of pilocarpine and serum and 3 died, or 17.64 per cent. In 24 cases, for one reason or another, pilocarpine or serum were not used and the mortality was 19, or 79.16 per cent.

The author attempted to parallel cases of equal gravity in comparing the results of the pilocarpine treatment and the treatment with no special remedy, and he found a very large percentage to the credit of the pilocarpine.

The symptoms following the administration of pilo-

carpine and the final results of the treatment are very uniform. The drug has a clearly defined physiological action. In five or ten minutes after a hypodermic injection there will be a subjective sensation of intense warmth and redness of the surface. These symptoms will be quickly followed by a sensation of cold and a profuse diaphoresis and salivation. In two to three hours the diphtheritic membrane becomes macerated and is easily detached. Generally the edema and infiltration does not recur after the necrotic layer is separated. Coincident with the improvement of the mucous membrane there is a great diminution of the submaxillary adenitis, and in two or three days of treatment the glands will have returned to normal size. The temperature fell following the hypodermic use of pilocarpine.

In mild cases Barsky advises the administration of the drug by the stomach, but if the symptoms are grave he gives it hypodermically and repeats in twelve hours if there is no favorable change.

To prevent a depressant action on the cardiac and respiratory functions a heart stimulant, as caffeine may be combined with the pilocarpine.

Vaginal Injections in Gynecology. — In view of the fact that vaginal injections are universally practiced by the laity without any consideration of diagnosis or indications has led Dr. Strassmann to investigate the subject and lay down the principles of the practice. His labors are reviewed in *La Presse Medicale*.

The author divides the injections into three groups: (1) Simple injections of water for cleanliness; (2) Hot water injections intended to produce certain changes by the elevated temperature; (3) Injections, containing antiseptics, and medicinal bodies in solution, which are supposed to exert some specific influence on the pelvic viscera.

The author speaks strongly against the indiscriminate use of hot vaginal injections, and he attributes a large number of cases of sterility to the immoderate use of the same.

The proper use of warm and hot irrigations is one of the most useful and efficient therapeutic aids. The activity of the circulation in the pelvis can be influenced to a great degree by the regulation of the temperature of the injected water. The application of water at a temperature of 104° to 113° has a vaso-dilating effect and causes a congestion and turgescence of the pelvic viscera. A higher degree of heat, 113° to 122°, has the opposite or vaso-constricting effect and renders the part anemic.

The warm injections, 104°–113°, are indicated in certain cases of metritis, especially in the atrophic form due to prolonged lactation, and in that form coincident with premature menopause and obesity. In such cases the warm douches frequently restore the suppressed uterine functions.

The injections at the lower temperature are very efficient in chronic metritis, with indurated uterine tissue

and a venous congestion giving a violet color to the mucous membrane. Under the influence of the injections the functional troubles will vanish, the menstrual discharge will become more profuse and the mucous membrane will regain its pink color; a metritis due to puerperal subinvolution is greatly benefited by the warm irrigations.

The injection of irritants and poisonous fluids must be carefully done as the warmth increases the absorptive power of the tissues.

The use of the very hot injections, which diminish the blood in the parts, is especially indicated in chronic peri-uterine inflammations and peri- and para uterine exudations. Under the combined influence of rest and hot douches large exudates undergo resorption.

These injections must be very large in volume and may be taken night and morning. If the patient is not in bed all the time she must repose in bed for an hour after each application.

Hot injections are of more value in chronic troubles than in acute. In many cases of recent exudations the douches increase the pain and aggravate the condition. In such cases it is necessary to refrain from the practice.

The astringent property of the hot injections makes them of great service in all uterine hemorrhages; in the metrorrhagia of endo-metritis and in the bleeding from fibroma. The addition of a small amount of tannic acid heightens the astringent action of the hot douches.

Injections bearing the various medicinal and antiseptic agents are to be chosen in cases of vaginitis—catarrhal or muco-purulent. To correctly treat cases of vaginitis it is necessary to ascertain the particular variety of the inflammation and then to select the medicinal substance, which suits the case.

M. Strassmann divides catarrhal vaginitis into two forms. The first of which he calls dry vaginitis or seborrhea of the vagina. This special form is observed in corpulent women, and sometimes during pregnancy. It is due to a simple hypersecretion of the mucous membrane and is characterized by a scant white discharge composed of epithelium and leucocytes. This kind of vaginitis will promptly disappear under alkaline injections, which act by neutralizing the acidity of the secretions. A small amount of sodium bicarbonate in solution is all that is needed, to effect a cure. All astringents are absolutely contraindicated.

The second form, the non-specific muco purulent vaginitis, is mainly observed in the aged, and sometimes in the young, in which case it is usually caused by the penetration of ascaridies into the vagina. In the senile vaginitis remarkable results may be obtained by irrigations with diluted hot solutions of pyrolygneous acid. In the vaginitis of ascaridies and other foreign bodies the antiseptics are indicated.

In true gonorrhea the treatment varies with the changing localization of the infection. If the vaginal infection is urethral there will, in most cases, only be a vulvitis from contact with the discharge. There is no need of vaginal couches here. The use of diuretics and

irrigation of the urethra with sulphate of zinc solution is the proper treatment.

If the gonorrhea is localized in the neck of the uterus the author advises irrigations with bichloride and the application of medicated tampons. Direct local treatment should not be instituted until the acute stage is past, and the secretion becomes white.

Disinfecting injections have a place in cases of inoperable neoplasms of the uterus and vagina. They arrest hemorrhage and moderate the suppuration and putrefaction.

MEDICAL & SOCIETIES

PROCEEDINGS OF THE ST. LOUIS MEDICAL SOCIETY.

W. H. FUCHS, M.D., EDITOR.

Stated meeting, Saturday evening, January 11, 1896; the President, W. G. MOORE, M.D., in the chair.

♦♦

DR. J. C. MULHALL presented a case of

Hysterical Spasms of the Tensors of the Vocal Cords.

Seven or eight months ago, a young lady, had an attack of typhoid fever, which was followed by a protracted convalescence. When she arose from her bed she noticed that her voice, when trying to speak, would assume a falsetto pitch. Various remedies were employed, but unsuccessfully. When first brought to him speaker noticed that she was an hysterical subject, and an examination of the larynx revealed this spastic condition of the cords. She was assured, in order to establish perfect confidence, that her voice could be restored in two minutes, and this statement proved correct. The introduction of the laryngeal electrode, charged with a strong galvanic current, after a few attempts, restored the voice to its normal register. This condition lasted until the day before Christmas, when a sudden fright, the nature of which she would not disclose, caused the voice to again assume the high pitch. She applied for relief last Thursday and was asked by speaker to consent to her presentation before the Society. She did not wish to keep her voice in its unnatural register so long, so that the electrode was immediately applied, and with the same happy result as before. But, being desirous of presenting her to-night, speaker resorted to suggestion to test its effect on the patient. He told her that her voice would remain in its natural register only one or two days, and, true to his suggestion, it had resumed its high pitch twenty-four hours later.

In order to prevent the natural embarrassment of discussion of the case in her presence, speaker asked the

patient to cough and speak, and then dismissed the patient.

It was found that the natural functions of the larynx, such as coughing, sneezing and laughing, were done in the natural register, whilst the artificial one, speaking, was preferred in this high, falsetto voice.

Cases of hysterical aphonia in women are quite common, and occur in men also. An instance of the latter was presented before the Society, by the speaker, about four months ago. But this case presents just the opposite condition. It is absolutely unique, as far as speaker's personal experience goes, and no similar cases are mentioned by any author. They have doubtless occurred, but it seems that no one took the trouble to record them.

Of course, here, as in hysterical aphonia, the restoration of the voice to its natural register is not accomplished as a therapeutic effect of the electricity, but is due to the confidence inspired by the operator and the fright accompanying the procedure. Any other remedy which would produce the same degree of fright would have the same effect. Speaker has very little confidence in the effect of electricity in this or any other class of cases, referring, of course, to its therapeutic value.

DR. LUDWIG BREMER took exceptions to the way in which Dr. Mulhall explains the manner of restoration of the voice in this case. He doubted very much whether the effect is the result of fright; it is much more reasonable to suppose it is the result of suggestion—the expectation of something powerful acting and something wonderful happening. It makes very little difference whether this is supplied by electricity, drugs, colored water or the application of the hands of some “powerful” personage. Dr. Mulhall himself, speaker remembered, had cured several cases of falsetto voice by hypnotic suggestion.

It is questionable whether all these cases are of a functional nature. Of course, it stands to reason that most of them are, whether they occur in the male or female. There are a great many more hysterical subjects among men than is popularly supposed, but they are not always recognized as such.

The doctor coincided with Dr. Mulhall's views regarding the therapeutic value of electricity, and said that it is applied in a hundred cases where it should be applied in only one. There is a strong undercurrent in neurological opinion at the present day, that many of the cures supposed to be produced by electricity are due to suggestion. Some authorities claim that there is not a single case of such cure that can not be attributed to verbal suggestion. Twenty or thirty years ago, electricity, to many minds, carried with it the idea of something powerful and mysterious, and the most astonishing cures were reported as the result of its application. In modern times, however, when people know more about, and are more conversant with, electricity, it does not inspire people to the same degree and, in consequence, its effect as a curative agent is much diminished.

Speaker had met with failures in those cases where electricity has been very strongly recommended, and has, in consequence, grave doubts as to its efficacy. It is an excellent hypnotic agent, especially the static electricity. It produces calmness and in a great many does away with the head pressure that is so common. The question is, Is it the electricity, or is it the suggestion?

DR. MULHALL said that he had restored the voice in a male hysteric without any suggestion in particular, by simply applying the electrode, turning on the current and commanding the patient to talk. To be sure, that is suggestion in a measure.

When a girl comes from a foreign State, to see a physician who makes a specialty of these troubles, that has an effect on her and is a means of inspiring her.

* *

DR. JAMES MOORES BALL read a paper (see page 132) entitled,

Thoughts on Cataract.

DR. S. POLLAK.—I should like Dr. Ball to say something about the dressing after cataract operation, which is a most important factor.

DR. BALL said it is an important matter to see that the corneal wound is properly approximated and that the iris is in place. The dressing is very simple, and consists of a piece of gauze, covered with absorbent cotton and retained by strips of adhesive plaster. The whole is kept moist with bichloride solution.

* *

DR. ROBERT BARCLAY presented a paper (see page 129) entitled,

How to Cure Acute Middle-Ear Disease More Quickly.

DR. M. A. GOLDSTEIN took exception to some of the statements made by the essayist. When the pioneer of modern aural therapeutics, Politzer, still maintains the efficacy of the inflation method to a certain extent, we may safely follow. Our own experience should be our guide in this matter, however, and judging from his own results, he could say that the Politzer inflation method is very beneficial in acute otitis media. In fact, in the majority of cases of acute catarrhal middle-ear troubles that have come under his observation, a single inflation with the Politzer, or any other form of air douche, has served an excellent purpose, and has, in some instances, been the only one necessary to relieve the patient entirely.

DR. J. B. SHAPLEIGH considered the position of the essayist as correct in the main; also, that the practice of the preceding speaker may be justified in many cases. In the very earliest stages of the trouble, where there is simply a closure of the Eustachian tube without much participation of the middle-ear in the inflammatory process, and where the earache is due to pressure upon the

nerves of the middle-ear from closure of the tubes, if inflation is performed at this time the trouble might be stopped. Later than that, however, inflation is injurious. Later still, after the inflammation has subsided in the catarrhal trouble, after the suppuration has ceased and there remains only a swelling and passive congestion of the mucous membrane of the middle-ear and tube, then inflation again comes into play. The point which Dr. Barclay probably had in mind was, that in acute middle-ear inflammation, at the time they are commonly first seen by the physician, inflations are injurious, as a rule.

DR. S. POLLAK had used the Valsalvan and Politzer method of inflation in his clinical work for thirty years, and in many cases where there was an accumulation of pus in the middle-ear and deafness, mild inflation has often relieved the symptoms. We are not obliged to give such a blast as would tear everything to pieces, but may use it gently, and it is then a very valuable remedy.

Speaker asked Dr. Barclay to explain what his method of treatment is. Does it differ from that of anybody else? He condemns the old method (which is a very easy matter) but what does he give us in its place?

DR. BARCLAY answered the question by saying that cases of acute middle ear disease will be cured more quickly by not invading them. It is not possible to cover the entire field of aural therapeutics. He made only one suggestion, "If you desire to cure middle-ear disease more quickly do not use inflations."

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DR. BRANSFORD LEWIS read a paper (see page 127) entitled, "THE INFILTRATION METHOD OF LOCAL ANESTHESIA IN GENITO URINARY SURGERY."

NOTE.—The discussion of this paper was postponed until the next meeting.

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DR. C. O. CURTMAN presented a paper (see MEDICAL REVIEW, February 8 and 15, pages 91 and 109) entitled, "THE SIGNIFICANCE OF HAIR IN FORENSIC MEDICINE."

ABSTRACTS

MEDICINE.

Geranium Maculatum in Hemoptysis.—This drug has lately received some attention from the profession in the treatment of hemoptysis, and clinical experience with it in the phthisis wards of the Metropolitan Hospital has shown it to be a drug of great value in the treatment of this symptom.

In order to check this constant drain on the system we must employ some drug possessing decided astringent qualities.

Experience has demonstrated conclusively that to accomplish this result we must use one of the vegetable astringents, as minerals have little or no power over the condition.

Most vegetable astringents owe their power to the fact that they possess tannic or gallic acid.

Tannic acid, possessing the power of coagulating albumen, can obviously not be used with advantage except it be applied locally to the bleeding spot, such as the alimentary track, or the surface, where it is of decided value.

Chemical analysis of the blood, after the administration of tannic acid, has developed the fact that the tannin does not appear in the circulation as tannic acid, but has been changed over to gallic acid before being absorbed.

Gallic acid, possessing as it does, astringent qualities, is by no means so powerful as tannin; but at the same time it has no power to coagulate albumen, hence may appear in the circulation without danger.

Geranium maculatum has been found to contain about 30 per cent of the gallic and tannic acids, and among other things, gum, resins, sugar, starch and albumen.

That its action on the mouths of bleeding vessels depends entirely upon these two acids is not certain, as the administration of either acid, alone or combined with the other, will not yield the same result.

It has been customary to prescribe this drug in from 2 to 5 drop doses of the tincture, repeated every two hours, upon the first signs of blood in the spectrum, and the results have been uniformly good.

A few doses generally suffice to stop the flow, and only in cases of long standing has it been found necessary to continue the treatment over any length of time.

In such cases the influence of the drug manifests itself by a change of character of the expectorated blood, becoming darker, clotted and much less in quantity.

In one case of phthisis pulmonalis, admitted with a history of continuous expectoration of blood for four days, and within twelve hours previous to entrance had lost a cupful of bright red blood, was treated with this remedy, and although within twelve hours a second hemorrhage occurred, during which three ounces of blood was lost, no further trouble was experienced for at least ten days, when a few streaks were noticed, and promptly caused to disappear by a few doses.

As many as fifty cases have been so treated in the last two months, and in only one case has it failed to control the flow, this being a case of four months' standing and under the action of the remedy is slowly improving.

Not only in phthisis is this of value, as the same result has been obtained in cases of bronchitis and passive congestion.

Hypodermatically, geranium maculatum has not been used as far as known. Experiments on animals are now being conducted, in order to determine whether or not its direct introduction into the circulation is attended with danger.—C. J. Wendt in *Med. Times*.

Tuberculous Meningitis.—Schilling (*Munch. med. Woch.*) discusses the possible relation of injury to this disease. Of course the tubercle bacillus can be the only ultimate or direct cause, but injury may possibly prepare the way, as it would appear to do in some cases of joint and bone tuberculosis. After giving short details of recorded cases, the author relates the following case: A boy, aged 9 years, fell down a cellar, after which he was unconscious, and vomited repeatedly. The boy soon recovered. On the left side of the head a scar remained. Eleven days after the accident he complained of severe pain in the head, and the vomiting recurred. The gait was unsteady, but there was no irritation or paralytic symptoms. About two or three weeks later there was still headache, and the child lost strength. Convulsions now appeared, beginning, according to the mother, in the right face, and later becoming general. The temperature was raised at night. The symptoms seemed to point to a local lesion in connection with the injury. The convulsions became more frequent and the child more drowsy. With the idea of local lesion, preparations were being made for trephining, but the child died suddenly. At the necropsy there was marked evidence of tuberculous meningitis, especially at the base of the brain. No trace of the past injury to the brain could be found. The bronchial glands were caseous. As regards the relation of the injury to the meningitis, it could only result from the tubercle bacilli gaining access by the wound, or from their being dislodged in some unexplained way from the old tuberculous focus, and in either instance settling down in the place of least resistance produced by the injury. If the symptoms of meningitis appear two or three days after the injury, there can be no causal connection between them, but here the interval was eleven days.—*Brit. Med. Jour.*

Graves' Disease with Tetany.—Steinlechner (*Wien. klin. Woch.*) records the case of a girl, aged 20, whose family and personal history were free from neurotic taint. When 10 years old her thyroid began steadily to enlarge, reaching the size of an egg, at which it remained without causing any symptoms, until a year before her admission to the hospital. At this period she began to suffer from painful spasms of both extremities, the hands assuming the characteristic posture of tetany. There was no fever and no history of mental shock. When admitted to hospital she exhibited the typical features of exophthalmic goitre, except that Graefe's sign could not be obtained. The thyroid, which projected more than two inches, was uniformly enlarged, hard and elastic. It extended internally on either side as far as a line from the mastoid process to the middle of the clavicle. A thrill could only be felt in isolated spots, particularly to the left and above. The trachea was bilaterally compressed so that at the level of the fourth ring it was reduced to a sagittal slit only $\frac{1}{11}$ of an inch in width. The pulse was 144, the heart hypertrophied and somewhat dilated. There were

frequent tetanic spasms of both upper extremities. The dyspnea increased so rapidly that tracheotomy was done; septic broncho-pneumonia followed, accompanied by diarrhea and vomiting, and the patient died about three weeks after the operation. Post mortem there were found, in addition to the ordinary appearances of Graves' disease, acute gastritis and enteritis, together with hemorrhagic nephritis. In the cerebral cortex, at the concavity of the right supramarginal gyrus, was a calcified cysticercus as large as a pea. Steinlechner has been unable to find any previously recorded case of the combination of exophthalmic goitre with tetany. He has, however, recently seen two examples of the latter disease in association with cysticerci in the mesial convolutions. His view of the pathology of the case under notice is that the bronchocele was the primary affection; this led by autointoxication to the Graves' disease. At the same time, the circulation of toxic material in an individual already predisposed (by the cysticercus) evoked the tetanic manifestations.—*Brit. Med. Jour.*

Recurrent Mumps.—Albert (*Rev. de Med.*) relates two cases, both occurring in trumpeters, each of whom had three separate relapses at intervals of some three to five months or so. Each attack was characteristic of the disease, and in one case orchitis complicated a relapse. In both cases hypertrophy of the parotid remained behind. The author excludes the possibility of the disease being any other lesion than mumps, such as suppurative parotitis, gaseous tumor of Steno's duct, or of the gland, or the special gaseous peribuccal tumor seen in musicians, etc. The occupation of trumpeter was an important, and at least a predisposing factor in the relapse. In 1893-94, 45 cases of mumps occurred in the regiment; of these 43 presented nothing unusual, and thus the two trumpeters alone formed an exception. The relapses occurred when they went back to their occupation and disappeared when they discontinued it. The only objection against the view is that the relapse did not appear at once on their resuming their usual occupation. On examining their mouth, Steno's duct was found in both cases patent but not abnormally so. Perhaps micro organisms from the mouth penetrated along the dilated ducts into the glands, or perhaps a retention of micro organisms was produced by the closure of the ducts during the act of insufflation. This latter view would conform better to the opinion that relapses in mumps are not due to a fresh infection but to a recrudescence. The hypertrophy still present eighteen and twenty-two months respectively after the first attack is rare after mumps. The glands were not much enlarged and were painless. The hypertrophy was no doubt due to overgrowth of connective tissue. At present the patients are not inconvenienced by the enlargement, and the parotid function appears to be normal. It is possible that a subsequent atrophy may occur. The author concludes that (1) the efforts of insufflation such as are made by military trumpeters may lead to a relapse in mumps; (2) young trumpeters, owing to closer appli-

cation, are more prone to suffer than the older ones; and (3) the relapses may be complicated by a lasting lesion of the parotids. The glands hypertrophy and become hard, forming a kind of chronic mumps.—*Brit. Med. Jour.*

The Functions of the Thyroid.—Formanek and Haskovec (*Klinz. Zeit und Streitfragen*), after summarizing the results of previous investigations, detail some experiments of their own in relation to the functions of the gland. They worked upon dogs carefully examining the blood before and after thyroidectomy. The number of red and white corpuscles was counted; the hemoglobin measured by Fleischl's method; the residues after evaporation and burning weighed, and the iron estimated. Sixteen tables are given, comprising the facts observed by three methods and also the daily changes in the body weight, temperature, and pulse of the fifteen dogs experimented upon. The authors arrive at the following conclusions: Thyroidectomy leads to progressive decrease in the number of red corpuscles, with appearance of microcytes and increase in the number of leucocytes. The dried residue of the blood, together with the amount of iron (and hence that of hemoglobin) is less than normal. If, however, a tetanic attack supervenes there is an increase in the red corpuscles, residue and iron; the increased density of the blood leads to convulsions—a fact confirmed by control experiments with strychnine. The iron set free by the destruction of the red corpuscles is deposited in the organs, especially in the spleen and lymph glands. The diminution of the hemoglobin entails a quickening of the heart and respiration, which lasts till the final stage of the cachexia. The thyroid is therefore a hematopoietic organ. The subcutaneous injection of the gland after thyroidectomy improves the blood condition and the general health by increasing the number of blood corpuscles. It is possible that the blood affection leads to certain changes in the formation of the end products of metabolism, whereby poisons are formed, producing an intoxication of the organism.—*Brit. Med. Jour.*

SURGERY.

Metatarsalgia (Morton's Disease).—Pierri (*Rif. Med.*), reports the case of a girl, aged 22, who for eighteen months had suffered from intermittent attacks of severe pain in the third and fourth right metatarsophalangeal articulations. The girl was accustomed to walk three or four kilometres a day, and now and then had to stand for several hours with naked feet on muddy soil. She had never had rheumatism. The first attack came on suddenly whilst stooping, and lasted off and on the whole day. The pain was very severe and radiated into the sole of the foot. There was no known exciting cause. Another attack occurred one month

later in the same articulation, but less painful. Then attacks began to occur every fifteen or twenty days, generally relieved by rest and aggravated by walking or by movements of extension. There was no appearance of injury, disease, or alteration in the affected parts. The joint seemed a little more mobile than its fellow, but otherwise there was no perceptible difference between the two sides. The attacks became nearly continuous at last, and were accompanied by a certain amount of spasm of the leg. On admission into hospital the author injected tincture of iodine periarticularly, with the view of tightening up the ligament. Seven injections were practiced in all, and the patient went out of the hospital cured, and has remained well for the last 5 months. There were no symptoms of hysteria in the patient nor any evidence of local or general disease.—*Brit. Med. Jour.*

Laparotomy for Intussusception in Very Young Children.—Clubbe (*Australasian Med. Gaz.*) reports seven cases of intussusception in which laparotomy was performed in very young children, and not one of them being over six months at the time of operation. Of these seven patients four recovered. These cases, the author points out, afford a proof that very young children are capable of bearing the shock of an abdominal section. While many cases of intussusception are, it is acknowledged, certainly reduced by rectal injections of oil, water, or air, there is, in the author's opinion, an element of danger in such treatment. It is very difficult to regulate the amount of pressure, and if the gut be weakened at any point by ulceration it may give way. Laparotomy is not in itself a difficult operation, and should, it is thought, be done in every case, no matter how young the child may be, if the surgeon is assured that he has to treat an intussusception that cannot be reduced by rectal injections. In none of the cases here reported was a drainage tube used. In some of them the intestines were washed with warm boracic lotion. Opium in some form was given to all for the first twenty-four hours. For the first twelve hours nothing but water was given, and after that Mellin's food and water for a few days, and brandy if necessary.—*Brit. Med. Jour.*

Spinal Puncture.—Farbringer (*Deut. med. Woch.*) refers to a few cases in which no fluid could be obtained by him, although there was every reason to think that the needle had entered the dural sac. In one case the puncture was made as many as fourteen times. He relates the following case in an infant aged 5½ months which was admitted with fever, stupor, marked opisthotonos, and bulging fontanelle. Only a few drops of fluid could be obtained by spinal puncture, although, contrary to his usual practice, he employed aspiration. At the necropsy, in addition to distension of the cerebral ventricles, the pia matter at the base of the brain was converted into a dirty yellowish-white mass with numerous tubercles in it. The same condition was

noted in the spinal cord. The dural sac was distended, not by fluid, but by this edematous spongy-material. There was evidence that the needle had entered the dural sac, but had not injured the cauda equina. The negative result was due to the absence of fluid. Among the author's three or four negative cases, there was one case of uremia without necropsy. Furbringer has obtained by spinal puncture 50 and 90 c.cm. of fluid respectively from two cases of uremia, but in one case where only a few drops could be obtained, there was no fluid found after death.—*Brit. Med. Jour.*

Implantation of the Ureters into the Intestine.—Borri (*Il Policlinico*), after successful experiments on this point in dogs, with a modified form of "button," experiments which are fully recorded, refers to two cases in the human subject in which the method was successfully applied. The ureter is fastened round one end of the bobbin, which is then introduced into the bowel through a small longitudinal incision, which is afterwards sewn up. In process of time union occurs, and the bobbin is passed *per anum*. The drawings which illustrate the paper make the method easy to be understood. In the first case (tuberculosis of the bladder) the "button" was passed *per anum* on the eighth day, and round its neck was seen the silk which had been used to affix the ureter. The first urine was noticed sixteen to twenty four hours after the operation, and henceforth at intervals of two or three hours, about 2 to 300 c.cm. In the second case (large vesico-vaginal fistula with total destruction of the urethra) the button came away *per anum* on the twelfth day. In both cases the results were satisfactory.—*Brit. Med. Jour.*

Castration for Enlarged Prostate.—London (*Australasian Med. Gaz.*) records a case of this operation in a man aged 82, which he believed to be greatest age at which it has been successfully performed. The patient first had retention of urine on February 11, 1894, but had shown symptoms of prostatic enlargement for some months previously. Subsequently he required the use of a catheter, and chronic cystitis supervened. At the beginning of December he was in a pitiable condition owing to want of sleep resulting from the constant need of catheterization. On December 3 a drainage tube was inserted into the bladder through the perineum, and on the 11th double orchotomy was performed. There was no shock, and the wound united by first intention. Drainage and washing out of the bladder was kept up for nearly three weeks. Strength was rapidly regained, and the cystitis had practically disappeared by January 1, 1895. The urine was at first passed at frequent intervals and in small quantities, but after a few days he was able to retain it for as long as four hours, passing as much as nine ounces on one occasion. He never again required the use of a catheter till his death, which occurred two months later from an attack of erysipelas of the leg. At the meeting of the South Australian Branch of the British Medical Asso-

ciation before which this paper was read, Dr. Poulton related three cases in men aged 60, 61, and 73 years respectively, in which he had successfully performed castration for the dysuria resulting from prostatic hypertrophy.—*Brit. Med. Jour.*

NOTES AND ITEMS

Missouri County and District Societies.—In order to better organize the work of the Missouri State Medical Association, its officers are desirous of having the names, the places, and times of meetings, names of the officers, and other important data of every regular local society in the State, (State, County and District). Officers of the same will greatly oblige by sending information under this head to

DR. FRANK R. FRY, M.D.,
3133 Pine St., St. Louis. Sec'y Mo. State Med'l Ass'n.

Treatment of Favus—J Khrenitchek, of Kniajevatz, Servia (*Srpski Arhiv za Tselokupno Lekarstvo*) draws attention to the following method, which he has successfully resorted to in eleven consecutive cases of favus (all in soldiers). The head is thoroughly cleansed with a solution of potassic soap; then, after shaving (which in the case of an abundant hair growth should be repeated every other or third day), the following mixture is freely applied: R. Acidi Carbolic, Balsami Peruviani, aa 10 g.; Petrolei, Glycerini, aa 100 g. M.—*Brit. Med. Jour.*

Ovariectomy and Wound of Ureter.—Warnek (*Ann. de Gynec. et d'Obstet.*) in the course of an operation for the removal of a very large cyst of the right ovary, cut away a tubular structure, which was seen to be over three inches of the ureter (*Brit. Med. Jour.*). The corresponding kidney was therefore sought for, but could not be found. The upper end of the ureter was fixed in the wound. The patient left the hospital cured thirty eight days after the operation. As no urine escaped from the cut ureter, Warnek thinks it reasonable to believe that the kidney had undergone atrophy from pressure on its efferent canal.

The French Association for the Advancement of the Sciences will hold its next meeting in Tunis, Carthage, on April 1, 2, 3 and 4. The Section on Physics will be held under the presidency of M. J. Bergonie, of Bordeaux. The subject for discussion will be "The Critical Study of Various Optical or Photographic Methods of Photometry from a Scientific and Industrial Point of View," a report on which, made by M. Andre Broca, will be sent to all persons who desire to take part in the discussion. It is requested that the titles of all papers be sent as soon as possible to the

secretary of the Association, 28 rue Serpente, Paris, or M. J. Bergonie, 6, bis, rue du Temple, Bordeaux.

Copper Poisoning from Vine Leaves.—

The *Journal des Praticiens* for January 18 states that a number of cases of poisoning have been observed in Austria after the ingestion of butter which is put up in wrappers of wine leaves that have been treated with sulphate of copper in order to preserve them from fungous growths or from mildew. These cases have occurred rather frequently, and the Austrian Government has absolutely forbidden this mode of wrapping, not only butter, but fruits.

The feeble toxicity of copper seems, says the writer, to have been well demonstrated by M. Gallipe, but it must not be forgotten that the preparations employed in the cultivation of the vine are complex compounds which are often impure and particularly apt to contain arsenic.—*N. Y. Med. Jour.*

Medical Education in the Future.—

Charles F. Eliot, President of the Harvard University, delivered an address on this subject at the recent annual meeting of the Medical Society of the State of New York. The medical education of thirty years ago was contrasted with that of to-day. Passing to the advancements made in medical knowledge, he said they related chiefly to diagnosis, prevention, asepsis, and bacteriology. Medical education of the future would begin with preparation from the sixth year and graduation not before the twenty-fifth. Physicians should interest themselves in the public schools, and see that the course of study be of a nature to prepare children and youth for the practical affairs of life. The example of Johns Hopkins in demanding high educational qualification as preliminary to the study of medicine was commended.

President Eliot was tendered a vote of thanks for the most interesting, instructive, and brilliant address.

Hysteria and Oophorectomy.—

Pamard (*Ann. le Gynec. et d'Obstet.*) reports a somewhat instructive case as illustrating the uselessness of removing even diseased ovaries in order to cure hysteria. In the beginning of 1892 he was consulted by a single woman, aged 25, who had become a nun. She suffered from various acute hysterical symptoms for over a year. Before she took the veil her health had been robust. Both ovaries were now enlarged. In May, 1892, Pamard removed the ovaries. The right was as large as a hen's egg, and showed small cystic degeneration; the left was in a similar condition, though not as large. All went well for some time, but at the end of December the patient began to complain of dragging pains in the hypogastrium. In January, 1893, Pamard operated again, believing that the proceeding might act as a cure by suggestion. He resected the omentum, which was strongly adherent to the abdominal cicatrix. As before there was complete relief for several months, then severe nervous symptoms appeared once more. She was sent

home for a few months, and the symptoms disappeared. Her health remained good for a time after her return to the cloister, but soon severe neuroses set in, and she remains unrelieved by treatment.—*Brit. Med. Jour.*

Inorganic Cardiac Murmurs in Children.—

The *Presse medicale* contains an abstract of an article which was published in the *Revue des maladies de l'enfance*. The author shows that, in children as well as in adults, a cardiac pulmonary murmur may exist which is independent of all organic lesions. This murmur does not appear until toward the age of three years and a half, and its frequency then increases progressively up to the twentieth year. The author has demonstrated this fact by his researches, which include almost four hundred observations. The diagnosis of cardiac pulmonary murmur presents considerable importance, he says, as it does away with the fears which the symptoms of organic lesions of the heart always gives rise to. The rules laid down by Professor Potain to establish this diagnosis in adults are, says the author, applicable to children. The appearance of the murmur seems to be favored by some diseases, such as chorea, scarlatina, and rheumatism, while other affections, such as pneumonia, diphtheria, and whooping-cough, seem to have no influence whatever.—*New York Med. Jour.*

Precautions About Sending Tuberculous Patients Away From Home.—

One of our religious journals contains an interesting and timely bit of correspondence that goes to show what may often occur when consumptives are sent to certain parts of the partially developed South, without the proper financial provision (*Jour. Amer. Med. Ass'n.*). Patients are not infrequently sent away, or allowed to go South without funds sufficient for their maintenance while away from home. Some patients are said to go in the expectation that they will be able to get work, when oftentimes there is no work suitable for them to do, and they may be without the strength to do it, even if it is to be found. The inference is inevitable that this "getting of work" for the patient should not be left to a chance, but should be looked into carefully before the journey is undertaken, unless the financial provision is so ample that the patient may not be overtaken by privations if the work is not procurable.

A clergyman in El Paso, Texas, writes to *The Evangelist* asking charitable friends to be careful in sending people there for treatment of pulmonary troubles, to make sure that they have enough to support them while there. The different churches are by no means strong, and find themselves very heavily taxed to support the very needy invalids sent from other places. Such sick poor, he says, are "unloaded on us every winter by the score." They are expected to find work, but there is no work for them save in very exceptional cases. While disclaiming any desire to be harsh or uncharitable, he says: "If their friends can not support them here, we beg of them not to send them. Keep them at home

that they may die of consumption among friends, and not of consumption, plus starvation, among strangers."

Cantharidin as an Adjunct to Mercury.—

At a recent meeting of the Hufeland Society of Berlin (*Deut. Med. Zig.*, January 9, 1896) Dr. Liebreich presented a patient in whom was exemplified the stimulating action of cantharidin. The man had syphilis, and had been treated with mercury without the least benefit until cantharidin also had been used, when the mercury had shown its usual remedial action and the syphilitic manifestations had subsided. At the time he was shown the man considered himself well and was pronounced cured. The same course was to be followed in the case of another patient, a woman, infected with syphilis.

Dr. Saalfeld said that he had treated a number of patients with mercury and cantharidin simultaneously. Some of them had manifestly had pulmonary tuberculosis, in which disease, as was well known, great caution was necessary in the use of mercury. In others of them syphilitic ulcers had defied an exclusive treatment with either mercury or iodide of potassium. The speaker had found that he could treat the tuberculous patients with ordinary doses of mercury without any harm resulting, provided he gave them cantharidin at the same time; and in both these groups of patients indolent ulcers that had before shown no tendency to heal had improved under the use of cantharidin.—*N. Y. Medical Journal*.

A Horse Leech in the Larynx.—In an abstract of an article from the *Archives de Medicine et de Pharmacie Militaires*, for November, 1895, published in the *Presse Medicale* for January 11, M. Le Damany cites the following case which came under M. Pauzat's observation: A soldier while drinking from a spring felt a pricking sensation near the hyoid bone. Hoarseness, slight dyspnea, moderate coughing, and spitting of blood followed. The presence of the leech could be ascertained by direct examination with or without the laryngoscope. Extraction by the natural passages was impossible, and spraying with a carbolic acid solution, the administration of oil of turpentine, and intratracheal injections of salt water proved useless.

As the dyspnea was increasing, M. Pauzat decided to practice tracheotomy, and on the following day the leech appeared in the mouth, and the patient drew it out with his fingers. Recovery took place without any accident.

From this M. Pauzat concludes that:

1. Attempts at extraction by the natural passages should not be made unless the leech is situated above the glottis, as they are dangerous if the leech is situated below it.

2. Opening the air-passages, when it is necessary, should always be done below the point where the leech is lodged, in order to assure freedom of respiration.—*N. Y. Med. Jour.*

The Perils of Hysteropexy.—Gottschalk (*Centralbl. f. Gynak*) brought before a German obstetrical society last November a pathological preparation illustrating the earlier stages of "cure" after hysteropexy, the patient having died on the seventeenth day from an accidental complication. An ovarian tumor was removed, apparently without trouble; and as the uterus was found to be retroflexed, its fundus was sewn to the parietal peritoneum. The serous coat was not vivified or dissected off before the fundus was drawn against the abdominal wall. Gottschalk reports farther that convalescence was undisturbed till the ninth day. On the seventeenth day the patient got up, though strongly forbidden to do so, and fell down dead in consequence of pulmonary embolism, which had been unilateral. After death embolism of both pulmonary arteries was detected, the second attack following the patient's imprudent act; the first seems to have come on through moving the patient too soon. The fundus was found firmly adherent to the parietal peritoneum; the abdominal incision had healed perfectly.—*Brit. Medical Journal*.

PUBLISHER'S DEPARTMENT.

THE DECADENCE OF OPIUM.—Wendell Reber, A.M., M.D., Pottsville, Pa., Oculist and Aurist to the Children's Home, under the above caption in the *Buffalo Medical Journal*, writes: "We would not banish opium. Far from it. There are times when it becomes our refuge. But we would restrict it to its proper sphere.

"In the acute stage of most inflammations, and in the closing painful phases of some few chronic disorders, opium in galenic or alkaloidal derivatives, is our grandest remedy—our confidential friend. But here, the application should cease; and it is just here that the synthetic products step in to claim their share in the domain of therapy.

"Among the latter, perhaps none has met with so grateful a reception as antikamnia, and justly so; for among all the contributions of pharmaceutical chemistry, none so fully merits our confidence as this one.

"Given a frontal-temporal-vertical or occipital neuralgia growing out of an uncorrected ocular defect, it will almost invariably arrest the head pain, until such time as the ocular trouble can be corrected with glasses. In the terrific fronto-parietal neuralgia of glaucoma, or in rheumatic or post-operative iritis, it is of signal service, contributing much to the comfort of the patient; and, I have sometimes thought, exerting an undeniable influence over the ocular disease. In this last group of cases I have seen the most benign effects follow the hourly administration of ten grs. of antikamnia until the pain is relieved. It will seldom be necessary to exceed sixty grains of the drug.

"Its range of application is wide. It is of positive value in certain forms of dysmenorrhea; it has served me well in the pleuritic pains of advancing pneumonia, and in the arthralgias of acute rheumatism; on several occasions, I have been able to allay with it the lightning, lancinating pains of locomotor ataxia; but nowhere do I employ it with such confidence as in the neuralgias, limited to the area of distribution of the fifth nerve. Here its action is almost specific; surpassing even the effect of aconite over this nerve."

MEDICAL REVIEW.

A WEEKLY JOURNAL OF MEDICINE AND SURGERY.

VOL. XXXIII

ST. LOUIS, FEBRUARY 29, 1896.

NO. 9

ORIGINAL ARTICLES

Life Insurance Examination.

H. L. BANKS, M.D., HANNIBAL, MO.

• Read before the Hannibal Medical Society, January 14, 1896.

It is not intended in this paper to give a comprehensive survey of the whole field of Life Insurance Examination. Rather is it expected that the statements and suggestions made may encourage a wholesome inquiry along this important line of study and work.

Life insurance is by no means a new thing. During many decades past, individuals have availed themselves of this means of protection and investment.

However, in recent years it has made gigantic strides and has assumed proportions hitherto unknown and surpassed the expectation of the most visionary.

This does not necessarily mean that human life has been commercialized; but, in these days of close and relentless business competition, men and women have realized the necessity and value of monetary possession. They also know that those who are and will be depend end upon them are to enter a similar competitive arena, and they wisely provide for future contingencies by investing their surplus or hard-earned wages in life insurance policies.

That such acts are wise and not fanciful is proven by the statements of the various companies as to their annual disbursements to policy-holders, their families or estates.

Companies of good standing report constant increase in volume of business—a substantial verification of the peoples confidence in such mode of saving and investment.

But, what has this to do with medical examinations and medical examiners? Much, in every way.

In the infancy of life insurance medical examinations were not considered important or necessary; but, time and experience have shown conclusively that the contrary position is quite the correct one. Hence, the increased magnitude of the insurance business means the increased responsibility of the medical examiner,

for he must of necessity pass upon the risk of more persons applying for insurance.

The success or failure of a life insurance company depends very largely upon the skill and thoroughness of its medical examinations and the correctness of reports in such examinations.

An examination may be made with all possible care, but if certain, important facts be omitted the whole phase of the matter is changed. The application blank so filled out may indicate a safe risk, but unfavorable information left out, purposely or otherwise, defeats the purpose of the examination.

The business management of a company may collect and arrange mortuary statistics ad infinitum, but unless the medical examinations are made and recorded with proper care all mathematical calculations come to naught.

The examiner, of course, is mortal and liable to error in judgement and statement of facts, but this need not become habitual with him.

In the selection of insurance risks the examiner's first duty is to the company for which he examines. In all cases he is required and expected to give the company the benefit of a doubt as to an applicant's probability of continued life. The interest of the many must be conserved rather than that of an undesirable applicant, undesirable morally, mentally or physically.

Yet, it is a good teaching that the minority have a right to be heard, and we must not be too hasty in rejection, for the applicant may have some very good ground for acceptance.

It is sometimes a very delicate question to settle whether we recommend the rejection or acceptance of a risk. We may possibly allow our judgment to become entangled with our own or the applicant's wishes.

In such a case we are likely to do an injustice to many by our decision contrary to our best judgment, being founded upon well known facts and demonstrable principles.

Sometimes our recommendation is solicited from a purely humanitarian standpoint.

For instance, a man may not be able to get insurance on account of physical or other defects. Yet without insurance he will leave a family in destitute circumstances. Now the question arises, is it proper that this family must be protected at the expense of those who already hold policies, or shall we classify him as a poor risk and cause his rejection?

The correct solution is clear, but the question is raised simply to bring to mind an illustration of what occurs occasionally in the experience of an examiner.

Again, we must not be hypercritical, because in this way we may not only deprive a worthy applicant of insurance, but we may alarm him or her unnecessarily and cause considerable anxiety about ailments which are unimportant and should not produce uneasiness on the part of the one examined.

Agents occasionally give undue prominence to their own mercenary motives and cause us more or less trouble regarding unfavorable risks. It is not supposed that the agent should know altogether the character of a risk, but when the premium is a goodly one he may be overzealous in urging the recommendation of the applicant for insurance.

In such instances great prudence is required. Of course we do not care to offend, but as strict following of the judgment is the correct and safe route to travel—not blindly but with due regard to related circumstances.

Although we must have due consideration for the company for which we examine, the applicant for insurance and the agent who furnishes us the business, we must not be so unselfish as to ignore our own interests.

Each time an examination is made our reputation as examiner and physician is at stake. If we make a poor examination of an applicant he infers that this is a proper measure of our ability as a physician; and his inference is well founded. It is an easy matter to grow careless in the examination of either an applicant or a patient.

We often take too much for granted.

We seldom lose anything by a careful examination, while much may be lost by superficial investigation.

A great many things are easily concealed, and they are many times just as easily discovered if only the proper care is exercised.

The patient comes to us for relief and is usually ready and anxious to reveal to us anything that will likely aid us in relieving him. His history and condition is an open book to us.

The applicant for insurance is enigmatic. We are to find out what we can about him. It is sometimes astonishing to see how little he knows about himself or family and how exceedingly healthy he has been all his life.

Of course it is to his interest to appear before the examiner as his best self, and he would not be human if he neglected his opportunity of making a favorable exhibit.

Sometimes the applicant may have been a patient of ours and the information previously gained of him through that relation may be useful in determining the risk, but such information must be used with just consideration and not simply because of possession.

If used indiscriminately it may be the means of further separation between physician and patient. Again,

the applicant may have been intending to consult us as physician, but unfair treatment at the time of examination may prevent such favorable consideration.

In view of the fact that examinations become a source of income to us we should not be indifferent to our trust, else those in charge may have to look for a more careful and reliable examiner, a thing which is not altogether desirable from either side of the question.

So, it will be seen that life insurance examination is not child's play, but requires the examiners best care and talent.

The varied relationships into which the examiner enters should stimulate him to alertness in all lines of his work so that he may "lift up his eyes and behold the field before him."

In the examination of an applicant for insurance many things are taken into consideration, but only a few of the more important ones will be mentioned. Age, identity; habits, personal history and condition, and family history.

The age of one individual taken separately does not appear to be important, but when a company is insuring policies by the thousand it is evident that slight error in underestimating age will make a very material difference in the aggregate. It is also due the applicant that his age be not overestimated, for in that case his premium would be unduly increased.

The question of identity is an important one for the reason that not infrequently it is attempted to deceive in relation to this. An unhealthy applicant may try to substitute another in his place who is healthy and able to pass the examination.

The case of Dr. Fraker in our own State is an example showing the necessity of establishing the identity of the person insured. Though finally located far from home and seemingly safe from detection it nevertheless turns out that he is the same individual who was supposed to have been drowned in the Missouri river.

The habits of an applicant are to be known because of the bearing they may have upon his moral or physical fitness for insurance. They may be such that make his risk a moral hazard through his physical make-up be all that is required.

The personal history refers chiefly to applicants past experience as to health or disease. Some former illness may have left its mark upon him or it may have been of a kind that is liable to recur and cut short his existence. Hence, it is not always best to accept at once the statement of an applicant that he has never been sick. It is sometimes a good thing to have him refresh his memory regarding some past illness which he now considers of no importance, but, which might impair his chances for insurance were its relations fully considered.

Physical examination reveals the applicants condition at the time he presents himself for examination.

The late Prof. Austin Flint said that "pathological laws are more reliable than human testimony."

This is particularly true in life insurance examination. The statements of the applicant go for naught when

we find positive evidence of disease in his organism.

The family history does not bear the import in examinations that was formerly attached to it. That it should be considered as an important factor is not disputed, but one's personal condition, history and habits should have the greater consideration.

Another question of importance is that of compensation for examinations. There seems to be an effort on the part of some companies to reduce the fees considerably; but, it seems to me that the officers of such companies stand in their own light.

Honest and efficient service on the part of the examiner should be reasonably compensated.

Suppurative Arthritis of Right Elbow-Joint. Resection; Recovery.

BY L. C. ARMSTRONG, M.D., TAYLORVILLE, ILL.

B. F., an American, aged 55 years, postmaster. Patient received a slight injury to elbow joint about a year previous to operation. A few days after the injury the joint began to be painful, hot and swollen; the swelling extended to the fingers below and almost to the shoulder above the elbow.

The doctors, three or four in number, who were first consulted, treated this case for rheumatism, and continued to treat it for rheumatism for three or four months, at which time I was consulted and diagnosed the trouble as being synovitis or arthritis—at any rate my opinion was that the joint was suppurating and being rapidly destroyed.

I advised an operation which the patient would not consent to, and went to his physicians who had been treating him all this time for rheumatism.

The arm, when I was consulted, was very much swollen around the joint, less above and below than at the elbow; fluctuation was a marked symptom, with a great deal of impairment of motion.

A few days after consulting me he had his arm punctured in a couple of places by his attendants, with the result of a copious flow of pus, which continued to run some six or eight months later, when he came to my office the second time. By this time patient's health and general condition was poor; he was much emaciated, hectic and losing flesh. He was unable to move his elbow; it was completely destroyed as I thought. The deltoid and biceps muscles were atrophied until the upper arm looked like a steak enveloped in skin. I again advised an operation and very readily got consent. After the patient was anesthetized by chloroform the joint was opened by a longitudinal incision across the olecranon process, commencing three or four inches above the elbow and extending four or five below. Upon opening the joint I found it full of pus with the artilage destroyed. I found it necessary to remove one and a half inches of the expanded end of the humerus, and as much of the ulna with the head of the radius

just behind the insertion of the head of the biceps into the tubercle of the radius.

After ligating a number of vessels with fine catgut, which bled very profusely owing to the long congested condition of the tissues; the arm was dressed by applying an anterior sheet iron splint, well padded with antiseptic gauze; the position of the arm was a little less than a right angle; the splint was fastened to the arm by a few turns of a plaster paris roller around the wrist and hand, and in the same manner at the upper end of splint as high up the arm as could be applied.

This enabled the wound to be dressed and redressed at pleasure without disturbing the ends of the bones; this appliance was kept on until the end of the fourth week, when it was removed, and passive motion practiced every second day. When the arm was put up in a hinge splint, so that it could be flexed but not extended beyond normal; this hinge splint was worn six or eight weeks.

But now and for a month since, and four months after the operation, the arm is worn in a coat sleeve with something approximating normal use. Pronation, supination, extension and flexion are all very good and improving with time. Patient writes very well with crippled hand.

I was somewhat fearful, that owing to so much bone being removed, that the arm would be flaccid like; that extension would not stop at normal, but would be carried backwards to an exaggerated position, but such happily is not the case.

The Diagnostic Value of Illumination of the Stomach. — Meinert (*Centralb. f. innere Med.*) criticises the method of Martius and Melzing, who claim to have shown that the normal empty stomach extends further up into the epigastrium than has hitherto been admitted, and that the normal full stomach always reaches below the umbilicus. The great question suggested by their researches is whether the appearances resulting from the introduction of the electric lamp into the stomach are due to the simple illumination of the organ, or to the diffusion of the rays of light in all directions. Meinert finds that these appearances vary very much with the position of the sound; thus when this is behind the liver, the stomach region is not illuminated at all, and all that is seen is a patch of light far to the right of the umbilicus. On the other hand, when the lamp is brought near the greater curvature, the adjoining colon is also illuminated to a greater or less extent. In dilatation of the stomach the method allows of a fairly accurate estimation of the position of the greater, but not the lesser curvature. Meinert concludes that electrical illumination may be of greater service in the diagnosis of tumors in the splenic region, and of enlargement of the spleen, and also in the topographical confirmation of many palpable tumors of the stomach and its neighborhood; in the estimation of the position, size, and form of the stomach, its indications are extremely fallacious.—*Brit. Med. Jour.*

MEDICAL REVIEW.

EDITORIALS

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PUBLISHED UNDER THE AUSPICES OF THE
MEDICAL REVIEW ASSOCIATION

BY O. H. DREYER.

YEARLY SUBSCRIPTION, \$3.50. SINGLE COPIES, 10 Cents.

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Entered at the St. Louis Postoffice as Second-Class Matter.

A Plea for Humane Executions.

The immutability of the laws of Nature manifests itself in the investigation of all natural processes. This conviction, together with the acceptance of the Meyer-Helmholtz law of the preservation of energy has done much in bringing about a resigned and objective neutrality and equanimity of most scientists' minds with regard to all the manifestation of life or of the energies displayed in the kaleidoscopic variety of natural processes. The all-pervading energy studied in the most infinitesimal organisms of the living world presents the same unchangeable laws, modified according to the respective vital phenomena, which govern the highest organized beings; the same cause is followed by the same effect. The lesson or moral of the immutable consequences of the manifestations of life in its most intellectual representative—man, is of a most sublime nature and equal, if not superior, in effect to the teachings of the

most beautiful religion. The study of Nature's laws is, in a measure, to the scientist what the study of God and his laws is to the student of metaphysics and theology.

The characteristics of an individual are influenced, modified or altered according to the impressions connected with its surroundings. Not the surroundings limited by the span of human life, but surroundings in the broadest acceptance of the word—beginning with the origin of the organic world.

Although it is, from a purely scientific standpoint, impossible to determine what is, in all instances, the normal condition of an individual there exists, practically, a conventional understanding as to the normal physical, mental and moral organization of the higher organized beings. How many hundred thousands of years may have elapsed to bring about the conventional idea of what is understood by the very convenient but, strictly speaking, meaningless word "normal" is as little known as the length of time it may have taken to develop what is generally understood by the designation "conscience." That one person has a much keener perception of conscience and of his moral obligations towards his fellow beings is an everyday observation; that heredity plays an all-important role in the development of conscience is equally plain to logical and analytical minds.

A criminal is the result of circumstances, of surroundings. The forces which have been moulding the characteristics of an individual have been active for many thousand years, nay, if the theory of evolution is true, since the existence of the world. The sum of impressions and circumstances is bound to bring about a certain definite result. Similar arguments are used by sentimentally inclined world reformers in advocating the entire abolishment of capital punishment; and, theoretically, the reformers appear to be right. A theory like this, however, if carried into practice, would, in its ultimate consequences, bring about a condition of existence which would, in all probability, greatly increase crime, for the energy manifested by what is usually designated as force of will plays a not insignificant role in the moulding of character. The exercise of the faculty of volition may often prevent a series of actions which eventually lead to the commission of one or another form of crime. The dread of the consequences, therefore, must, more or less, play a role in the prevention of crime by influencing volition. Punishment would consequently appear as a practical discipline and this is, we believe, generally admitted. A wide difference of opinion, however, exists with regard to the method of punishment. In this respect there is, indeed, much room for argument and speculation.

By many physicians, and scientifically inclined minds in general, the apparently cruel punishment by hanging or decapitation is looked upon as a relic of barbarism and, taking into consideration all circumstances that have a bearing upon the subject, there is much truth in such a conception of these methods of punishment.

What appears to be intended by the removal of a criminal who is in the highest degree obnoxious and dangerous to his fellow beings is, (1) to prevent with certainty the possibility of a repetition of the same or a similar crime by such an individual; and (2) to deter others from a repetition of the criminal act. Aside from these two motives for the execution of criminals here appears, however, to be a third one, that of revenge. This motive manifests itself in its simplest, most natural, unembellished and unsophisticated form in the act of "lynching."

It may be claimed that the disgrace connected with hanging or the fear or horror of the execution by decapitation or electricity have a salutary influence upon the criminally inclined mind and that the execution of criminals is as much needed for the purpose of preventing a repetition of the crime by others as for the purpose of removing the obnoxious individual and thereby radically obviating another criminal act on his part.

As an offset to these arguments there are however other points of view from which this subject may be analyzed and discussed, and these are, in our opinion, the only just ones and, at the same time, the most effective with reference to a repetition of the crime by others. It is not so much the person of the criminal which should be considered in the selection of a method of execution, but his family, his relatives and, in some instances, his friends may have to be taken into consideration. This is one reason why neither the hangman's rope, the executioner's ax, nor electricity, as it has so far been employed, appear to be the ideal or the most practical forms of capital punishment. If a capital punishment were adopted which could be universally looked upon as humane and in harmony with this scientific spirit of the age, humane enough that even the nearest "deserving" relatives would look upon the execution as a necessity only, as the natural consequence of the action of energies subject to immutable laws, that the highest State officers—Governors in this country—would practically be dispensed from the often distressing and, if unconsciously carried out, time absorbing duty of considering the propriety of a pardon—if such a method of execution would be adopted, the question of capital punishment might, for the present, be looked upon as settled.

But there is, furthermore, another reason for the advisability of more humane executions which is based upon a nobler and higher minded motive than those indicated by the foregoing arguments and which is, at the same time, equally logical. An act, apparently containing an element of revenge, creates opposition. It is this opposition which probably forms a not inconsiderable element in the multiplication of crimes. Criminally inclined individuals often look upon the order loving members of society as their enemies. If crime were punished without leaving a shadow of a suspicion that the execution was, even in the slightest degree, the result of a revengeful spirit, such an objective and dis-

passionate attitude might do much, by its educational influence as well as by preventing a spirit of opposition, in reducing the number of crimes.

Good and charitably inclined people are liked by everybody, even by individuals which are more or less closely related or belonging to the criminal classes. Heartlessness and senseless luxuries create a rebellious spirit among some unfortunately situated individuals and, thereby, increase crime. The mental and moral characteristics of a criminal are abnormal in a sense pointed out in the beginning of this article. For practical purposes, conventional lines have been drawn by psychologists and alienists between what may, for practical purposes, be looked upon as normal (physiological) and abnormal (pathological) conditions of the criminal; between the physiological (conventionally sane) criminal and the pathological (insane) criminal. How difficult it may be in some cases to draw such a line, expert testimony has often demonstrated.

In advocating a more humane capital punishment, our views are based upon the firm conviction that the imitation, as far as practicable, of the laws of Nature, is a good guide to follow. The study of these laws teaches that the ultimate fate of the criminal, if left to himself in the struggle for an existence, is moral, mental and physical annihilation of himself and his progeny. By the execution of a criminal such an annihilation is accomplished at a quicker ratio than would naturally be the case and has the advantage of protecting society from his aggressiveness as well as that of some possible descendants. There exists a certain resemblance between the processes of natural and artificial execution and that of natural slow oxidation (decay) and artificial rapid oxidation (incineration). In both artificial procedures human reason attempts the protection of society from injurious elements.

Taking into consideration these facts, it is plain that a serious responsibility rests upon those who are entrusted with the melancholic duty of carrying out the letter of the law and the realization of such a responsibility should prevent occurrences as, for instance, an oversight by which—as occurred in New York some time ago in an attempt at electrocution—a most horrible spectacle, due to a clonic contraction of the muscles by an alternate opening and closing of the electric current, presented itself to those witnessing the execution and of which all the daily papers furnished most sensational accounts.

The recent hanging of Fitzgerald furnishes another drastic example of what should be impossible to take place. The rope with which the murderer was to be executed, broke and he had to be hanged a second time. The news of this accident spread like wildfire and horror, pity, disgust and indignation found profuse expression everywhere. The following clipping from the *Globe-Democrat* of February 21, conveys an idea of the situation.

"The most horrible incident that ever attended an execution in the City of St. Louis was witnessed by 200

men inside the jail inclosure at 10:14 o'clock yesterday morning.

"James Fitzgerald, murderer, was led to the scaffold, and a moment later the trap was sprung. Fitzgerald shot earthward $6\frac{1}{2}$ feet, and the rope broke near the beam to which it was fastened. The prisoner alighted on his feet and fell backward.

"For an instant the spectators were paralyzed. Then groans and hisses rent the air, and the crowd started to rush forward.

"Forty policemen beat them back.

"Oh, Jesus! Jesus! Loosen this rope!" grasped the half strangled man, as he made a futile effort to regain his feet.

"Deputy Sheriff Joe Brockel leaped from the scaffold, but before he could do anything Deputy Sheriff Andrew Langford and Chief Dispensary Physician Jordan seized the prisoner and lifted him from the ground. Langford loosened the ropes and cut the cords that bound Fitzgerald's feet, and Fitzgerald was half carried, half dragged into the post-mortem room at the Morgue, 20 feet away, where the deputies laid him on the operating table. He was perfectly conscious, and was apparently uninjured, save for a slight scratch on the left side of the neck.

"The crowd swept like an avalanche toward the great door leading into the Morgue enclosure, but Capt. O'Malley, of the Central Police District, and a squad of Policemen stood and held the charging throng back. Anger, curiosity and horror were depicted on every countenance. So intense was the feeling aroused by the accident that Capt. O'Malley, fearing a demonstration, immediately increased his detail to fifty men.

"Fitzgerald lay on the operating table with black cap on his face and the rope still around his neck. He was hurriedly examined by Coroner Waite, Dr. Jordon, Dr. H. L. Neitert and others, who pronounced him comparatively uninjured. He had been stunned for an instant, but never lost consciousness."

We will spare our readers a repetition of what occurred after this unsuccessful hanging process as it has been described with all the sensational incidents and more or less spicy comments in the daily papers.

Suffice it to state that almost an hour's time elapsed; before the criminal, who was conscious during all this time was again subjected to the same "experiment"; the securing of another rope causing the delay.

Is it a wonder that under such circumstances the idea suggests itself that the present methods of executions are relics of barbarism and that the method of poisoning of some of the old civilized nations, of the old Greeks and Romans, is really preferable to modern execution?

Physiologists are well acquainted with poisons which, when injected hypodermatically, kill almost instantaneously. The quiet and private execution of criminals by the administration of such powerful poisons would fulfill all the requisites which we have pointed out as necessary in order to harmonize with modern enlightenment and prevent the evil consequences of the present practices

of execution. It is this objective, impartial, unemotional, unrevengeful execution which, as an imitation of Nature's laws, appears to promise the best results in reducing the number of crimes and which, therefore, must be looked upon as the only correct and humane method of executing criminals.

Let us hope that in the twentieth century it will be found practicable to dispense with the present methods of capital punishment. Experience in history has shown that the total abolition of capital punishment increases crime. The same has been the result of Draconic laws. A repetition of this experience in modern civilization would be highly probable nay, a certainty. Whether a more humane method of capital punishment, above pointed out will, when carried into effect, reduce or increase the number of crimes would depend upon a trial. It may, therefore, not be wise to make a hasty change. Possibly it will not do to generalize in this matter, but to treat each individual class of crimes now avenged (we say avenged because of the apparent element of revenge expressed by the present cruel methods of execution) with taking the life of the culprit, according to its merits and by reserving only certain classes of crimes for the more humane procedure of poisoning. Laws should be enacted according to a nation's characteristics and the condition of the stage of civilization. What may have been a most practical law in ancient times or the middle ages, may be entirely out of place at the present period of human existence.

This subject appears to us as one of the burning questions that will have to be solved in the near future. Should it be possible that such humane executions will form the transitory stage toward a total abolishment of capital punishment? This will depend upon a great many other factors; principally upon a satisfactory solution of the great social question of how to prevent the extreme pauperization of some classes of society which seems to be inevitably connected with the highest form of civilization. Statistics seem to prove that crimes and insanity increase with an increased struggle for existence.

Reforms in the punishment of criminals, however, should not be based upon motives of sentimentality, but upon reason. The advancement of the common weal should be considered only in trying to solve problems of this nature, and what is most practicable and the best for all concerned should eventually be adopted.

A Communication From Dr. Fry.

As we were going to press we received a letter from Dr. Frank R. Fry in which the use of the hypodermic syringe is advocated as a future method of execution. A similar thought, which we have also expressed in today's editorial, has no doubt occurred to many physicians; only a few days ago Dr. Bremer, at a medical meeting, suggested the same method of execution as the only humane one. We hope that other members of the profession, in this section of the country, will ventilate

their views with regard to this question as the subject is a most timely and appropriate one for general discussion. Dr. Fry's communication appears as a correspondence in this issue of the Review.

Beware of Fire in Ether Narcosis.

A recent accident which took place at the Female Hospital of this city, serves as a forcible illustration of the universally known, but sometimes forgotten, fact that ether is inflammable. During the administration of ether, the latter took fire causing several disagreeable burns. Such accidents will occasionally happen and teachers can not caution their classes too much with regard to the inflammability of ether, the necessity of keeping artificial lights out of the operating room and the avoidance of ether in all operations where the thermo- or electro cautery may have to be employed.

BOOK REVIEWS

Books reviewed in this column may be obtained, post-paid, by addressing the publisher of this journal, and remitting the quoted price.

Medical Jurisprudence, Forensic Medicine and Toxicology. By R. A. WITTHAUS, A.M., M.D., and TRACY C. BECKER, A.B., LL.B., and a staff of collaborators. In four royal octavo volumes. Volume III., Forensic Medicine (continued). New York: William Wood & Company. 1896.

Of all the medical works published in this country and abroad, the one before us is a true representative of the best medical literature of the last decade of the XIXth century. The third volume of this great work fully justifies the expectations which have been placed from the beginning upon the systematic and exhausting publication of a series of treatises on the various important subjects in Medical Jurisprudence, Forensic Medicine and Toxicology. The third volume is fully the equal of its two predecessors; its subjects are of vital practical interest to every physician and lawyer, who is at all interested or engaged in this branch of medicine or law. In fact, every physician whose ambition it is to keep up with modern medical literature of practical value, feels the necessity and duty of having ready access to the information embodied in the various articles of this popular and useful work.

The first article is by Dr. J. H. Woodward, on "Vision and Audition in their Medico Legal Relations." The subject is an extremely important one, particularly to the physician in his capacity of expert, since arrangements of sight or hearing, real or feigned, play the most important part in many lawsuits.

The next paper is on "The Medico-Legal Aspect of Insurance," and this topic has been ably handled by David Murray, Esq., and G. J. Edwards, Esq., well-known experts in this line.

The next section on "Insanity in its Relations to Medical Jurisprudence," by Dr. E. D. Fisher, is the largest article in the book, occupying over 200 pages, and its author's well known reputation in this branch of medicine is sufficient guaranty of the value of his contribution.

The next paper on "Mental Unsoundness in its Legal Relations," is by T. C. Becker, Esq., one of the associate editors of this work, and, coming from the pen of a practical lawyer, is a most valuable contribution to the literature of the subject.

The last section is on "The Care and Custody of Incompetent Persons," by the Honorable Goodwin Brown. The article is a perfect epitome of the legal and medical sides of this subject, with an abstract of the laws of the various States that bear upon it.

A Manual of Medical Jurisprudence and Toxicology. By HENRY C. CHAPMAN, M.D. Second Edition, Revised, with 55 Illustrations and 3 Plates. Philadelphia: W. B. Saunders. 1886. Price, \$1.50 net.

The second edition of this useful work is increased in size and value. The many duties of the physician in his relations to coroners and courts and the increasing importance of expert and scientific testimony makes it highly desirable that the physician should be posted in medico legal subjects. To all this book will be found a satisfactory work of reference.

The first chapter, dealing with the questions of lay and expert witnesses, the relations of the physician to the coroner, etc., is especially interesting and comprises facts which all physicians should thoroughly know.

The sixteen chapters cover the domain of this extensive subject in a terse, yet remarkably complete manner. The signs of death, methods of holding post mortems, legitimacy, insanity, are presented in an impressive manner.

The author does not include paranoia in the systematic classification of insanity.

His distinction between "feticide" and "infanticide" is good. The first is "the unlawful expulsion of the fetus, or criminal abortion." The latter is "medico-legally the murder of the new born."

The book is written from the physicians' standpoint, and is replete with many practical suggestions which will fortify the reader against the accidental and designed pitfalls that encompass him.

E. T.

Scribner's Magazine.—The March instalment contains a pictorial record that is unique in magazine illustration, giving 85 pictures in one article—including original and very artistic views of the World's Fair, reproduced in pen drawings of unusual beauty. The Homestead riots and the Tennessee convict troubles are

also fully illustrated from instantaneous photographs. The text gives, among other striking passages an interesting summary of the marvellous advances made by electricity in recent years. In these days of international irritation, it is a satisfaction to learn just what the "British Opinion of America" really is. Richard Whiteing, of the *London Daily News*, a very well-known English journalist, in an article on this subject in the March *Scribner*, directs attention, not to the opinion of the social and political leaders, but to the "Man of the Street," and to the great mass of work-a-day people throughout England. They have revised their ideas of America in the past twenty or thirty years, and no longer regard this country as a Mecca for the laboring man. They see that there are industrial and social problems here as well as in England. But, what is most important in view of the recent Venezuelan dispute, is that "the non-conformist conscience is for peace with America, as the first of human concerns." The article closes with a reference to the Transvaal affair. M. Whiteing comes to his task of voicing the average Englishman's views, unusually well qualified to judge both of them and their application, having had, besides his observation at home, an extensive experience as a special correspondent abroad.

The American Journal of Ophthalmology.

—The January and February numbers of *The American Journal of Ophthalmology*, edited by Adolf Alt, M.D., with the assistance of J. Ellis Jennings, M.D., present several new features of usefulness. The original articles by Dr. Alt are illustrated by photographic reproductions which have, no doubt, a great advantage over drawings in being more exact and true to Nature. For one who is well acquainted with the appearance of the structures, represented in the photographs, it will be easy to see in these reproductions pathological changes, which could not be shown as well by drawings.

Another new feature of the journal is a digest of whatever appears in ophthalmic literature and is of interest and importance. Also the space devoted to Clinical Memoranda is an innovation deserving the notice of those interested in ophthalmology.

CORRESPONDENCE

In Re Hanging.

Editor MEDICAL REVIEW.—The brutal bungling in a legal execution on February 20, in St. Louis, has been sufficiently described and commented upon to last for a long time as a standing advertisement to our City's fair name. And I have no desire to enter the lists with those who would call attention to our existence by recalling the fact that this remarkable incident actually occurred

in a place already well known to the world as the City of St. Louis.

I simply wish to embrace the opportunity to advocate a method of legal execution which I long ago conceived but never publically announced, viz., the hypodermic syringe. Three syringes, two containing water, a third three grains of morphine in solution, prepared by authorized physicians. Put these into the hands of three "deputies," who shall each discharge the contents of his syringe under the skin of the culprit who is to be executed, in the presence of the proper authorities. In an hour repeat the process with an increased dose. In another hour repeat it again with the dose still increased. In a part of the process another poison might be substituted for morphine. When the culprit is dead, proper paper should be executed to that effect. Which could be done, in our modern organization of society, in a way to leave no doubt as to the fact of the proper execution of the laws.

It is brutal to allow one man even in a legal way to destroy the life of another. By this method properly carried out no one would ever know who administered the fatal doses, hence the absence of the appearance of a deliberate act on the part of a single person in the destruction of another which is such a debasing feature of all present methods of executing criminals. It is highly barbarous to stand or sit a man up to kill him. It adds greatly to the suffering which these unfortunate wretches endure by the crude methods which still obtain.

Our method is free from mutilation; and it needs not to be suggested that sufferings and mutilation are not contemplated in the modern theory of capital punishment. In fact the very cruelty and barbarity of these methods alone would have before now led to the abandonment of them if it were not that society has feared to abandon the institution of capital punishment. It will probably be a long time before the world as a whole shall relinquish this institution. Hence, the greater the necessity of depriving it of barbarous features. Electrocutation had its conception in a desire of this kind. But in this direction I do not believe it commends itself sufficiently to replace the gibbet and the guillotine. A method which shall be without degrading exhibition of mutilation and suffering and the possibility of harrowing incident and accident is what a humane feeling seeks. We suggest the syringe.

FRANK R. FREY, M.D.

Laboratory Work.

Editor MEDICAL REVIEW.—To every doctor who has an interest in pharmaceutical education and appreciates true advancement of the student of the sister profession, the Alumni Association of the St. Louis College of Pharmacy tenders herewith a most cordial invitation to favor us with a visit on the evening of March 23, at 8:30 o'clock at the St. Louis College of Pharmacy Building, 2108 Lucas Place.

In the pharmaceutical laboratory there will be on this evening a general exhibit of pharmaceutical preparations made by the students of this department during this winter's session and as this class of work is naturally of interest to the members of the medical craft, it is to be hoped that we will be honored by your presence and have you inspect the work.

In addition to the above invitation Professor Francis Hemm and his students in this department also bid you heartily welcome and, besides, the officers and Board of Trustees of the College would feel pleased to have you come.

L. A. SEITZ, Rec. Secretary.

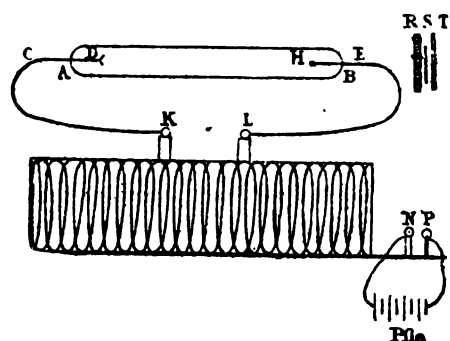
THEO. F. HAGENOW, President.

TRANSLATIONS.

BY EDGAR THOMPSON, M.D.

Photography of the Invisible.—M. Oliver has written, for *La Presse Medicale*, an interesting exposition of this new phenomenon. He says the subject is associated with Crooke's experiments and Maxwell's theories of light.

Take, after Crooke's, a partial vacuum tube (A B) in one end of which enters a copper wire (C) which terminates in the pole D. The other end of the tube has a similar wire (E) terminating in the pole H. The wires C and E are connected with the poles (K and L) of the induction coil of a Rumkorff apparatus. The latter should be capable to produce a spark four or five inches long. The primary coil is excited by an interrupted current from the battery.



When the induced current passes through the rarefied air in the tube a curious phenomenon occurs. The pole D will be enveloped in darkness, while about the pole H will be a fluorescent glow. In the interval, between the two, rings of alternating luminosity and darkness will be seen. This phenomenon will not occur in an absolute vacuum. The tube must contain a few molecules of air.

In air at the ordinary pressure the molecules are very close together and any small impulse at one point sets in motion the molecules. They start in the direction

of the impulse but at once strike other molecules and each rebound and strike others in various directions. Consequently there will be no regular onward movement of the gas but there will be a confused vibration of each molecule in every possible direction. The impulse will be diffused. In the Crooke's tube which contains a very limited number of air molecules, each will move without bumping against another. Suppose there are twenty molecules in the tube. Then if an impulse or shock was applied at one end most of the molecules will be thrown clear to the other end in one vibration as they will not collide with any of the few remaining molecules. If the shock is produced by electricity you have the well-known Crooke's tube. Now an electrical discharge produces a current in the tube. This current will be from the negative or cathode pole (D) towards the positive or anode pole (H). The few molecules in the tube will be influenced by the electric shocks and all will fly towards the positive end of the tube and they will concentrate at B. With the changing polarity the molecules will partially rebound.

This constant striking on the wall at the B end of the tube will generate a certain amount of friction and this friction, in the rarefied condition of the air, will cause the fluorescence at the positive or B end of the tube.

At the dark end of the tube peculiar rays originate. These rays can not be reflected or refracted; are bent by magnetic influences. These rays penetrate glass with difficulty but traverse with more or less ease most so-called opaque bodies. These rays are called cathode rays from their point of origin, and they are probably produced by vibrations of the all-pervading hypothetical ether of the scientists.

The author says Roentgen's discovery demonstrates the truth of Maxwell's theories, proposed many years ago. Maxwell concluded that light and electricity were two forms of the same force and there was only a difference in the rapidity of vibrations.

Dr. Roentgen performed the following experiment: He took a Crooke's tube, which has long been known as the generator of the cathode rays, and covered it with a piece of thick black paper, before which is a sheet of paper made sensitive with barium platino cyanide. He placed the whole in a dark chamber and passed an induced current through the tube. He found that certain rays passed through the black paper and made the sensitive sheet fluorescent. These rays could not be the ordinary cathode rays because they can not penetrate the tube. Dr. Roentgen concluded that there were yet another species of rays and he called them the X rays.

The author says there is really nothing wonderful in these invisible rays and he refers to the ultra-violet rays of the spectrum which have no influence on the retina and are therefore invisible, yet they have great chemical force. The X rays have the same chemical action as the ultra-violet rays with the additional faculty of traversing certain opaque mediums, as wood, books, etc. But the X rays do not penetrate all substances with

equal ease and they are entirely held back by certain metals, and it is on this fact that the peculiar value of the rays hang. If they penetrated and passed through all bodies alike the sensitive plate beyond would be uniformly changed, because all parts would be exposed to the light. If a piece of wood, on which is placed a metallic object, is placed between a Crooke's tube and a piece of photographic paper the rays will pass through the wood and act on the paper, while the rays falling on the metal will be suppressed and the underlying paper remain unchanged. When the paper is developed it will, of course, show the metal image whatever it may have been. The process is not photography, but it is similar to sun-printing or shadowgraphy, a shadow appearing wherever the rays are intercepted.

The diagnostic importance of the rays depends on the fact that they are obstructed by bone, as is shown by the following experiment: Take a tube (B) and place before it a wooden board (R) and on the board a person places his hand (S) and T is a photographic plate. After an exposure of five minutes an inspection of the plate will reveal dark areas or shadows which correspond exactly to the bones of the fingers and hand. The rays traverse the wood, the epidermis, muscles, ligaments, nerves, arteries, veins, etc., but are arrested by the bones.

The diagnostic worth of this can be readily seen. If the normal contour of the bones is disturbed by exostoses, or spiculæ, or if a metallic body is present the fact will be shown on the developed plate.

If the best hopes of the discovery are realized it will prove a new diagnostic method. The position of a revolver ball will be marked; the condition of a joint in ankylosis will be exposed; the position of the fetus will no longer be conjectured; vesicle calculi be diagnosed at a glance.

MEDICAL & SOCIETIES

PROCEEDINGS OF THE ST. LOUIS MEDICAL SOCIETY.

W. H. FUCHS, M.D., EDITOR.

Stated Meeting, Saturday evening, January 18, 1896; the President, W. G. MOORE, M.D., in the chair.

* *

The discussion of DR. BRANSFORD LEWIS' paper on

The Infiltration Method of Local Anesthesia in Genito-Urinary Surgery.

was taken up as a special order of business

DR. F. J. LUTZ endorsed the method from his own experience with it in a limited number of cases, and said

it should have a wider field of application than has heretofore been accorded it. One of the great drawbacks in deciding upon any kind of surgical operation is the dread for the administration of a general anesthetic whether it be chloroform, ether or any one of the mixtures employed for this purpose. Local anesthetics, too, often have dangerous effects when the drug is used in any quantity and were there is a peculiar idiosyncrasy of the patient. Especially is this true of the local anesthetic usually employed, cocaine, and, although he had used it in a great number of cases and had never had any serious complications, it had produced very unpleasant symptoms at times. A great many operations for which a general anesthetic is now administered could and ought to be performed under the influence of a local anesthetic, under which, of course the method suggested by Schleich is to be included.

All operations on the prepuce could be done very nicely by using the infiltration method. Six years ago, speaker had performed his first laparotomy under cocaine anesthesia. The patient was in no condition to stand a general anaesthetic and the evacuation of pus into the abdominal cavity was imperative. In like manner he had removed a large number of tumors and had performed a half dozen operations for the radical cure of hernia during the past winter, using only the infiltration method of anesthesia.

Although physicians at present seem to show a tendency to avoid its use, the time will probably come when we will have fixed rules to govern the use of this mode of anesthesia.

DR. A. H. MEISENBACH, while conversant with Schleich's infiltration method of anesthesia, had not had an extensive experience with it, and doubted whether it could be applied as often and in as extensive operations as is claimed by the author and our essayist.

One objection is the time consumed in producing anesthesia in those cases where an extensive skin area is involved in the operation. As soon as the knife passes beyond the distended area we have pain, and resistance and struggling of the patient follows. Then, in some operations, such as major amputations, the operator seldom knows the exact line of his incision, so that he could not anesthetize properly at once. Furthermore, if we accept the statements of older writers on the subject, that the cutting of nerves and bone tissue is the most painful operation, the method would be inapplicable here, as it is not possible to properly anaesthetize these parts, especially the hard bone structure.

The depressing effect so generally ascribed to the general anesthetic, speaker considered in part a psychological one; a result of the mental impression made upon the patient by the idea of submitting to the use of the knife. This explanation is often verified by the fact that we have the depression occurring before sufficient of the anesthetizing agent has been administered to account for it.

Speaker did not wish to antagonize Schleich's method *in toto*, since the investigations were made in a proper scientific manner, and the results recorded are doubtless trustworthy. But it will not supplant general anesthesia in extensive operations. It is applicable to such minor cases as the opening of abscesses and circumcision, but even in this latter case the looseness and dilatibility of the tissue to be infiltration would seem to interfere with its effect. It would seem to be particularly efficacious in cases where the skin is firmly attached to the underlying structures, or where it permits of only slight distension, as in the scalp.

Another method of local anesthesia, which is very efficacious, is the application of bromide of ethyl, which substance is put up in tubes, and acts much like ether, by freezing the skin. Speaker had found this method very satisfactory and he preferred it to that of Schleich.

Castration is a simple operation and accompanied by only slight pain, if we might judge by the manner and effect of the operation as it is done by farmers upon animals. The chief element, pain, is in the initial incision and this may be reduced to a minimum by using a very sharp knife. The condition of the instruments used is a point too often neglected by surgeons. It is undoubtedly true that a quick cut with a sharp knife is less painful than the slow incision with a knife having a ragged and indented edge. In order to preserve the cutting edge we should be careful in the selection of our antiseptic solutions in which the instruments are immersed. It is also doubtful whether a quick incision with a sharp knife causes more pain than the repeated prodding of the skin with a hypodermic needle.

DR. ROBERT FUNKHOUSER considered the position of anesthetist the most important in connection with an operation. His is the most responsible one and he deserves the greatest amount of praise. Chloroform or ether may be given in such a way as to produce little or no ill effect, without giving too much. The same may be said with regard to Schleich's method of infiltration. It is a tedious method when not thoroughly understood, and the necessity for anesthetizing each successive layer of tissue before cutting through the same is one of the great objections to it. The anesthetic effect lasts but twenty minutes, which is another argument against its general adoption. But its application will become less tedious and more general when it is better understood and when we have skilled assistants.

Of course, the method will never replace general anesthetics, not any more than hypnotism will, although speaker had successfully employed the latter in making examinations, overcoming vaginismus, opening abscesses, operating on hemorrhoids, etc.

Cocaine seems to have a bad local effect on the tissues. It has a tendency to destroy epithelial cells, to lower the resistance and establish a condition favorable to inflammation and bacterial invasion. In this way it interferes with the healing process.

Speaker had overcome the necessity for numerous punctures, by using a longer and larger needle. In that

way a large area may be anesthetized, and in circumcision, for instance, one puncture is often all that is required to establish a complete anesthetic collar of the prepuce.

In cutting through bone and nerve tissue it has been found that anesthetic qualities might be obtained by injecting the fluid into the periosteum and perineurium respectively.

DR. JOHNSON had performed amputations before the introduction of anesthetics and had found that cutting through the bone was not as painful as cutting through the skin.

DR. A. R. KIEFFER believes that chloroform is given too often, and often in too large a quantity. The susceptibilities of patients differ, and, even in the same patient, the effects of the anesthetic vary with the various stages of an operation. Chloroform produces more harm than is ordinarily supposed, and often bad results which are attributed to the operation itself are due to the anesthetic.

We know that patients are often most profoundly shocked before being injured, and that chloroform has often produced evil effects before the operation had commenced. But in spite of the elements of danger attendant upon the use of chloroform, it is often better to employ general anesthesia than to incur the risk of the great shock produced by the consciousness of what is going on in an operation, as is the case when it is done by the infiltration method.

DR. LUTZ did not wish to be understood as saying that the infiltration method should be a substitute for general anesthesia, but there are cases and operations during which we can dispense with general anesthesia where we are now using it. Every individual case must be judged upon its own merits, the patient must be studied carefully and the surgeon must formulate his conclusions according to his findings. An operation which is to extend over a long period of time does not come under the head of local anesthesia. Although the time consumed in performing an operation may be very materially abridged, it is not true that rapidity can always be made to take the place of care. By keeping a patient under the anesthetic for an hour and a half or two hours we increase the danger very materially and can not tell just how much additional risk is incurred. It is not a safe plan to continue it so long. By using the infiltration method we may possibly obviate this one of the dangers of an operation, and, whilst our present experience does not warrant us in laying down a set of rules for our guidance in the selection of our cases, the time will come when this can be done.

During the last winter speaker had operated for complete castration a half dozen times and had never used general anesthesia; he simply used cocaine. He had also done suprapubic cystotomy for stone, in a patient 62 years of age, by the same method. This patient objected to the use of chloroform and was willing to stand the pain, no matter how severe. While he did not lie as quietly as he would have done under a general

anesthetic, there would have been infinitely more risk in his condition to have given him the anesthetic which he dreaded so much.

DR. LEWIS asked Dr. Lutz whether he had ever had any trouble by way of puncturing vessels, or whether he had been afraid of this complication?

DR. LUTZ had always used the sharp needle, but is careful not to thrust it too deeply or indiscriminately into the tissues. He had seen only the disturbance from puncturing a vessel, but this possible danger would not deter him from using the method. Dr. Langan can tell of a case of cocaine injection which is quite instructive.

DR. W. J. LANGAN, in citing the case referred to by Dr. Lutz, said that he performed circumcision with the assistance of another physician. The assistant injected a syringe of a four per cent solution of cocaine into the prepuce, and while turning around to prepare for the operation the patient leaped through the window. Fortunately, the sash was up, but a screen, which was in the way, was carried along. This was certainly an effect of cocaine.

DR. FUNKHOUSER did not doubt the occurrence of shock as the result of chloroform itself. In this case it is often either improperly or imperfectly administered. Greig Smith calls attention to the necessity of establishing complete anesthesia before proceeding with the operation. But it is not the pain alone which is responsible for the shock, since cases of fatal chloroform narcosis are on record where the operation had not yet begun. The dread for chloroform is enough to produce profound shock, and where a patient can be assured of and absence of pain and not subjected to the influence of the dreaded anesthetic we have removed all the most important elements concerned in the production of shock.

DR. W. H. MAYFIELD considered chloroform a safe anesthetic if it is skilfully administered. The idea of patient, that chloroform is dangerous, produces as much shock as the anesthetic itself, and for this reason mental encouragement and reassuring statements should be made by the surgeon before beginning the anesthetic.

He had used cocaine locally, but is under the impression that union is not as rapid and perfect after its use.

DR. G. M. PHILLIPS endorsed the position taken by the various speakers in regard to anesthetics, and called attention to the use of whiskey, administered by the stomach, in connection with the hypodermatic injection of $\frac{1}{4}$ grain of morphine and $\frac{1}{100}$ grain of atropine. He at first tried this method in a case of varicocele and succeeded admirably. A considerable portion of the scrotum was resected and the patient experienced no pain whatever. He had first tried the same method on several occasions since then and the effect has always been equally as good.

He had used the infiltration method also, in one case in particular, where he removed a tumor, weighing twelve pounds, from the arm of a woman who had a mitral unsufficiency. The incision in this case was

eight inches long, and the operation was a painless one although not rapidly done. It would have been impossible to have used a general anesthetic here.

DR. EDWARD BORCK had seen Dr. Link, of Terre Haute, some years ago, use whiskey in place of another anesthetic, but he would administer it to a point of profound intoxication. In order to accomplish this he would administer one ounce every ten minutes.

DR. REMY STOFFEL had administered chloroform a great many times, his first experience in this direction being before he was graduated in medicine. At that time he felt less concerned about the matter than he does at present, and although he had never had a serious complication to arise while he was administering chloroform, other than a temporary cessation of breathing, he never feels completely at ease until the patient has regained consciousness. It is wrong for a surgeon to allow an inexperienced person to administer an anesthetic, and more care should be exercised in preparing the patient properly before the anesthetizing is begun. The depressing influence of a dread for the anesthetic can be overcome to a great degree by proper words of encouragement on the part of the surgeon. This is often as important as emptying the stomach and clearing the intestinal tract.

In spite of the great number of remedies and process for the production of anesthesia which have been suggested from time to time there seems to be room for improvement in most of them, and any new methods which will overcome some of the objections to the older procedures should be encouraged. The infiltration method seems to meet most indications, and is free from many of the objections that may be urged against general anesthetics. It should, therefore, be more generally and extensively employed.

DR. BRANSFORD LEWIS felt highly gratified at the general discussion which his paper had occasioned, not that the paper itself was the sole cause of it—it had acted merely as a precipitant, the exciting cause to the discussion—but it shows the importance of the subject as a branch of surgical practice. And that it is an important subject there can be no doubt. It is the one which occupies the surgeon's mind chiefly when he undertakes to perform an operation. The operator's skill depends largely upon his own learning and upon his dexterity in handling instruments, but he can not, by his learning, guard against all dangers of the general anesthetic.

Speaker had seen deaths result from the administration of chloroform and ether, besides other dangerous conditions, and that too, where the anesthetic had been administered skillfully; so that he can not fully indorse Dr. Mayfield's statements, that the chief danger lies in the manner of its administration.

If we could do away with the general anesthetic in a large number of surgical cases we would have removed a great element of danger. Much more damage is done by chloroform and ether than is ordinarily attributed to them, and in their bearing upon surgical procedure

great importance attaches itself to the physical condition of the patient, whether there be a constitutional disease, such as tuberculosis; or a diseased condition of the brain, lungs, heart or kidneys.

Some of the preceeding speakers had used the word "supplant" in referring to the possibilities of the infiltration method as compared with general anesthetics. He did not use that word, nor would he like to be credited with having used it involuntarily in this connection. He did not argue that infiltration anesthesia would entirely supplant general anesthetics, but that it would often be substituted for them, and in so doing avoid dangers which are often attendant upon their administration. As we become more familiar with this subject and its technique we become better prepared to make use of it.

Some of the objections urged by Dr. Meisenbach are theoretical and will be dissipated as he familiarizes himself with and makes use of the method. The time required for producing anesthesia is a point which was accentuated in the paper. The effect is instantaneous, complete insensibility being established over the infiltrated area immediately after the injection is made. This is not true with cocaine; for, with this drug it requires from three to five minutes before the desired effect is obtained. The point with reference to bone and nerve anesthesia was correctly answered by Dr. Funkhouser.

DR. MEISENBACH.—Based upon this assumption, how long would it take to do an extensive operation on the thigh?

DR. LEWIS answered that he could make no calculation on that point. It is simply a matter of perfection of technique. If you obtain an anesthetic effect without shocking your patient, what does it matter if the operation takes fourteen hours? On the other hand, if the general anesthetic produces profound shock and the operation requires but an hour and a half, where is the advantage? This method has a decided advantage over the anesthesia produced by the freezing process by bromide of ethyl, or the ether spray. Its effect is lasting and it may be applied to any portion of the body or any depth of tissue, whilst the freezing process results in transient anesthesia and is applicable only to the surface of the body.

The question might be asked: Why is a patient with anasarca not anesthetic? The difference lies in the percentage of salt contained in the infiltrating fluid. In anasarca we have a physiological salt solution, six-tenths of one per cent, whilst in the infiltration method a two tenths per cent solution is used.

Of course this method is not to be applied in all cases. Its application should be studied carefully. For instance, it need not be used in laparotomies where the patient's heart is healthy, unless the operation is a short one. Some of the cases in which it might be employed have been mentioned by Drs. Lutz and Phillips. Speaker had used it in prostatic abscesses, resections of the scrotum, circumcision, removal of buboes, perineal urethro-

tomy without a guide, in which the canal was tortuous, in perineal cystotomy and in hydrocele operations.

A point which ought to be accentuated is the danger of injecting a four per cent solution of cocaine. Patients have died from the effects of the injection of a weaker solution, and if we can eliminate this danger or that attendant upon the administration of a general anesthetic, we have made a wonderful step in advance in surgical technique.

The speaker submitted a syringe, furnished with special needles, which he had devised and used with the object of eliminating the dangers of using a sharp steel needle in the depths of a wound, or in the neighborhood of important vessels or organs liable to be injured by such a needle.

The syringe was larger than an ordinary hypodermic syringe and held sixty minims. The needles (one curved and the other straight, for convenience of application), were $2\frac{1}{2}$ inches long and made of German silver. The chief feature about them was their bulb tip, or probe point, which prevented their puncturing arteries or veins of large size, etc. The instrument had given speaker great satisfaction and has materially enlarged the scope of the method.

Stated meeting, Saturday evening, January 25, 1896; the President, W. H. MOORE, M.D., in the chair.

DR. C. C. CURTMAN presented some microscopical slides, showing various kinds and forms of hair, illustrative of his paper, "The Significance of Hair in Forensic Medicine." Read before the Society January 11, 1896.

DR. A. H. MEISENBACH presented a patient showing the result of

Resection of the Elbow Joint for Ankylosis in the Extended Position.

The patient, a small boy, was injured in September last year, but the nature of the injury could not be exactly determined. He was first seen by the speaker in the beginning of December and a diagnosis, as determined by external appearances and palpation, of fracture and dislocation of the head of the radius, was made. A prognosis was given of permanent ankylosis, unless surgical interference was had. An attempt at breaking up the structures concerned in the ankylosis was suggested, but this proved unsuccessful, although it was carried as far as the condition of the arm permitted. Resection was then advised and assented to, and it was accordingly performed on December 18.

A long primary incision was made on the external aspect of the arm, over the point of insertion of the extensor muscles. As was diagnosticated before the operation, the head of the radius was found dislocated backwards and firmly united in this abnormal position. The posterior ligaments of the joint were severed, but reduction was not possible. With a periosteal elevator the anterior ligaments of the joint were freely loosened,

but even then it was not possible to replace the dislocated portion. A second incision was then made on the internal aspect of the joint, and it was found that the articular surface of the humerus had become altered, and, together with the extensive callus which had formed prevented the replacement of the radius. Speaker now argued that if the articular surface of the ulna were left intact and portion of the lower end of the humerus were cut away the remaining articular surface of the humerus would adapt itself to the sigmoid cavity of the ulna and result in a comparatively useful joint, with a preservation of flexion and extension and not lateral motion. Accordingly, that portion of the articular surface of the humerus anterior to the coronoid process was cut away, and in doing so the obstacle to the proper replacement of the parts was removed. The head of the radius was also cut. The arm was properly dressed and encased in a plaster cast. Five days later a fenestrum was cut into the plaster, the packing was removed from the wound and drainage perfectly established. Two weeks after the operation the plaster cast was removed and left off entirely.

The result of the operation proved the wisdom of the various steps. The boy has partial motion in the joint, which has improved and will continue to do so if massage is properly applied and long enough continued. The movements are not confined to flexion and extension, but pronation and supination can also be performed in spite of cutting the head of the radius. Motion in the fingers was lost in the beginning owing to the disturbance of the muscles during the operation, but it has been partially restored and will continue to improve with massage. The boy is also unable to raise his arm voluntarily, because the biceps and triceps have lost their physiological function, owing to inroads made upon them by the operation.

Considering this class of cases as a whole, the result is very good, and a causal observer would hardly find any marked disproportion between the normal relation of the elbow and the coronoid process.

DR. THOMAS O. SUMMERS emphasized the importance of these cases, which are more important and involve more fine anatomical points and difficulties of diagnosis than abdominal section. The lesions of the elbow joint present more difficulties of diagnosis, even to the experienced anatomist, than any other joint of the body. The result is a brilliant one and should stimulate to a more accurate study of joint lesions.

It seemed to the speaker, however, that the condition was not due to a fracture, but that a separation of the lower epiphysis of the humerus had occurred, and that it slipped downward and forward, being aided in this displacement by a tension upward, exerted by the triceps on the olecranon process.

DR. W. B. MAYFIELD predicted that Dr. Meisenbach would not be disappointed when he expected motion to improve in the joint. It will require diligent exercise on the part of the boy and his attendant. Speaker based his statement on an experience with one case recently

operated upon, in which the elbow joint was resected. The resection was done for an extensive necrosis which followed an injury to the arm. A small portion of the radius was allowed to remain, merely as an experiment, but it proved to be the means of preserving considerable motion to the joint. Although no favorable prognosis, with regard to the preservation of the motion, had been given the patient, he was able to adjust his own tie with the hand of the operated arm. The patient would not remain over for presentation to the Society, but left for home last evening.

DR. MEISENBACH, in answer to Dr. Summer's suggestion, that this might have been a separation of the lower epiphysis of the humerus, called attention to the manner of junction of this part to the shaft of the bone. It may be compared to the manner of attachment of the placenta to the uterine wall, although in the case of the epiphysis, the interdepression are not so marked. If a separation should occur the displacement would occur forward and the fragment could be distinctly outlined, giving a characteristic external appearance, and the normal relationship of the lower end of the humerus to the olecranon process of the ulna would be disturbed. This latter condition was not present, as was demonstrated by the operation. In order to demonstrate the absence of an external contour characteristic of an epiphyseal separation, speaker exhibited a plaster cast, taken before the operation, in which the usual outlines of that condition were absent.

Since operation on this case, speaker had met with an almost parallel one. Here, too, he was unable to determine the degree of motion that would ultimately result from an operation. In the case under consideration he made no promise at all, regarding the extent of the resulting motion, promising merely to change the position of the arm.

The doctor presented also a specimen of

Aneurism of the Arch of the Aorta,

obtained from a woman, the history of whose final illness is about as follows:

The woman was about 52 years of age, and was apparently in good health, except that she had suffered somewhat with pains under the clavicle for a year or more. She was seen by a friend of the speaker last Sunday for the first time. Recognizing the gravity of the case he immediately called for assistance, and it was 2 o'clock in the afternoon of the same day that speaker first saw the patient. At this time she presented symptoms of obstructed respiration, such as dyspnea, marked cyanosis, rapid feeble pulse and tracheal breathing. The temperature was 100.4° F., and there was a marked infiltration at the base of the neck. Auscultation anteriorly and posteriorly revealed coarse moist rales, which were so pronounced as to make it impossible to auscult the heart sounds. Pulsation could be readily determined at the base of the neck, which led to the suspicion of aneurism, but the characteristic *bruit* was either absent or rendered inaudible by the noisy breathing.

The symptoms were rapidly growing more pronounced and the danger to life increasing in proportion. Tacheotomy was suggested as the only means of overcoming the difficulty of respiration, and it was performed as soon as the instruments were obtainable. No anesthetic of any kind was used.

Upon making the primary incision through the skin and underlying tissue a quantity of venous blood welled up. The trachea was rapidly sought for with the finger, but instead of finding it in its usual position the finger passed directly backward and impinged upon the spinal column. The patient was breathing very poorly by this time so that no time was lost in making nice dissections. After feeling from right to left in the wound the trachea was found pushed to the left, and it was compressed against the spinal column at a point between the os prominens and the sternum. At this stage of the operation brandy and strychnia was given hypodermatically on account of the poor condition of the patient. A tracheal tube was rapidly inserted, but it was rapidly obstructed by a steady flow of mucous. Suction was performed by the operator, through a gum catheter inserted through the wound into the trachea, but the flow of mucous kept on, and the patient died upon the table of edema of the lungs.

The husband was desirous of knowing the true state of affairs, so that a post-mortem was made. The usual incisions were made to open the thoracic cavity, but on rising the sternum from its underlying attachments the anterior wall of the aneurismal sac was brought with it. The cavity of the aneurism was found filled with an immense firm blood clot, which had caused the current of blood to flow through the natural channel. This probably explains the absence of the characteristic *bruit*.

From the microscopical appearance of the tissue it was evident that an inflammatory process had developed but recently, and the consequent infiltration of the tissue gave rise to the tracheal displacement and compression. The thyroid gland was found somewhat enlarged. It was also found that the operation of tracheotomy had resulted in restoring the trachea to its normal shape and calibre, which seemed to indicate that the compression had been of but recent origin. Judging from the evidence of inflammation present it is reasonable to suppose that the process would have resulted in suppuration, and that the patient would have ultimately succumbed to it if she had not died from the obstructed breathing produced by the pulmonary edema.

DR. BENJAMIN LEE, of Philadelphia, Secretary of the Pennsylvania State Board of Health, to whose labors in the field of Hygiene and State Medicine so much of the recent advance in American legislation upon questions connected with public health can be attributed, has been elected foreign associate member of the French Society of Hygiene at Paris.

ABSTRACTS

MEDICINE.

Anthrax Antitoxin — Marchoux (*Annales de l'Institut Pasteur*), has carried out a long series of experiments on rabbits and sheep with a view to determining the relative value of serum therapeutics and vaccination in the treatment of anthrax. He finds that intravenous injections of small doses of virus are not more severe than subcutaneous, but large quantities are far more lethal when given by the former method. Furthermore a sheep vaccinated by the ordinary method is refractory to a considerable dose of anthrax, but its serum has little prophylactic and absolutely no curative power. To develop the latter it is necessary that the animal be immunized to a very high degree so as to resist enormous doses of virus inoculated at frequent intervals. The curative power of the serum is most marked at about fifteen days to three weeks from the time of the inoculation, after which period its activity rapidly diminishes; once drawn the serum retains its power very well. By intensive inoculation of sheep a serum can be obtained having distinct prophylactic properties. These are not as yet very considerable, but Marchoux hopes to increase them by the use of larger and more refractory animals, such as horses and asses. He finds that the amount of serum required to prevent death varies with the seat of injection of the virus into the animal, being least when under the skin of the flank, and successively increasing as the skin of the ear, the peritoneal cavity, and the veins were inoculated. The rabbits experimented on, though preserved from death, were not vaccinated, but invariably succumbed to a second dose of the virus. With regard to the curative properties of the serum, that obtained from rabbits was not found strong enough to avert death, but that from sheep was effectual if given in sufficient quantity and before the appearance of edema. The immunity produced by this serum was found to be extremely superficial and evanescent; that resulting from vaccination is, on the other hand, both complete and lasting. The action of the former appears to depend upon a temporary increase of phagocytosis; this is also much more marked and persistent in vaccination by means of attenuated virus. The immunity acquired by the latter method can only be overcome when the general condition is enfeebled, as by pregnancy or exposure to cold.—*Brit. Med. Jour.*

The Etiology of Malignant Tumors. — Roncali, Corselli and Frisco (*Centr. f. Bakt. u. Parasitenk.*), and Ribbert (*Deutsch. med. Woch.*) discuss the etiology of malignant tumors, but from different points of view. Whereas Roncali, Corselli and Frisco consider them as caused by blastomycetes, following Sanfelice, Ribbert seeks to explain them upon a modifica-

tion of Cohnheim's original theory. Roncali found blastomycetes in large numbers in a case of adenocarcinoma of the ovary, and gives in detail the microscopical appearances present. He also found in each of five sarcomata from three different regions of the body, which had very different histological and clinical features, that parasitic forms were present in small or in large numbers, and these forms were very similar to those described by Sanfelice and by himself in the adenocarcinoma of the ovary. They stained in the characteristic manner, withstood acids and alkalies, were found inside and outside cells, exceptionally inside the nuclei of cells, multiplied by gemmation, and were divisible by their general appearance and staining reactions into young and old forms. In the same number in which appears Roncali's paper on adeno-carcinoma of the human ovary, Corselli and Frisco describe a human case in which blastomycetes were the cause of malignant tumor. Hitherto it had only been known that new growths were produced in the lower animals by inoculation with blastomycetes. The last mentioned authors obtained during life and after death from a case of sarcoma of the mesenteric gland the organism in pure culture, and succeeded in producing by inoculation similar growths in animals. The micro organism was cultivated first of all, and formed colonies on fucus (neutral or alkaline), after which it could be transferred to, and would grow in, bouillon gelatine, simple agar, glycerine agar, and glucose agar. No result was obtained with any other culture medium. The characteristics of the colonies are original. Guinea pigs, rabbits, and dogs were used for inoculation, and the milky fluid of the glands from the human case, as well as the pure cultures, were injected; 5 c.cm. of the milky fluid or 2 c.cm. of a ten-day-old broth culture killed guinea-pigs in twenty five to thirty days. The animals wasted very considerably, and at the necropsy was found enlargement of mesenteric and inguinal glands, the glands being the size of a nut. The microscopic appearance in the human and in the experimental cases were practically identical. Ribbert regards tumor formation not as dependent upon some aberrant embryonic cell or mass of cells, as Cohnheim suggested, but as dependent upon a setting free of the cells from the organic connection whether in embryonic or in extrauterine life. The isolated mass of cells grown by its own inherent power so long as the cells of which it consists are capable of growth, are placed in suitable surroundings, and meet with no excessive interruption in their nutrition. It is independent, and forms a tumor which, according to the size and the organization of the primary isolated mass, agrees in the chief points of its structure with that of the organ from which it originally sprang, or more or less completely differs from it.—*Brit. Med. Jour.*

Sudden Death Due to Spinal Puncture.

—Furbringer (*Centralbl. f. inn Med.*), refers to the eighty-six cases of spinal puncture already published by him. In four of these cases death occurred unex-

pectedly, all within two days, and two within two hours of the puncture. It was, however, impossible to say definitely then whether it was really a question of cause and effect. This author now records a further case fatal on the day of the puncture. A man, aged 29, had suffered from headache of varying degree, frequent vomiting, and unsteady gait. Lately the headache had been very severe. There was commencing choked disc in the right eye. After the failure of other treatment spinal puncture (without aspiration) was practised to relieve the headache. Fifty c.cm. of clear fluid were drawn off, but the pain in the head increased. The patient then became apathetic, and six hours later died of respiratory paralysis. There was a large cerebellar tumor, and the cerebral ventricles were greatly dilated and contained a large quantity of clear fluid. There was very little fluid in the spinal subdural space. Thus in three cases of intracranial tumor and two of uremia the author has seen death occur within forty hours after spinal puncture. In Lichtheim's fatal case there was also a cerebral tumor. Thus in these cases of tumor there seems to be abundant evidence to show a causal connection between the puncture and the death, but in the cases of uremia no positive statement can be made. The author then discusses the cause of death, which he does not think can be solely assigned to the changes in pressure. He warns against spinal puncture in cases of intracranial, and especially cerebellar tumors. Perhaps the drawing off the fluid in small quantities on different occasions might be harmless. A lasting improvement can not be expected. Quinke and Rieken have only once seen a slight improvement in their cases of brain tumor, and they point to spinal puncture as being of value chiefly in acute serous and sero purulent meningitis.—*Brit. Med. Jour.*

Urotropin as a Solvent for Uric Acid and its Salts.—During the discussion which followed the reading of a paper on "Chronic Lithemia, With a Consideration of Various Uric Acid Solvents," by J. W. Irwin, M.D., of Louisville, Ky., before the Louisville Clinical Society, Dr. I. N. Bloom said:

"Concerning solvents of urates or uric acid: I just finished the treatment of a case yesterday which came to me two weeks ago, in which I tried urotropin; the patient was referred to me by Dr. Scott. The specific gravity of the urine was .1030, free from albumen and sugar, but a large quantity of uric acid was present; the urine was highly colored, the coloring matter being decidedly increased. I gave him urotropin in five-grain doses four times a day, and in three days the urine had become perfectly clear, there was no deposit at all, and the patient was discharged yesterday.

"This is the only case in which I have used urotropin and simply wish to add it to the other solvents."

Dr. Wm. Cheatham stated:

"I have used urotropin in several cases with good results. These were cases of asthenopia found to be due to the uric acid diathesis, there being general rheumatic

symptoms. In giving urotropin I combine it with salicylic acid. I give two drachms of urotropin and one drachm of salicylic acid in eight ounces of water, a tablespoonful at a dose. This would make the quantity of urotropin taken at a dose about eight grains."—*The American Therapist*, January, 1896.

Salophen in Influenza.—R. Drews (*Centbl. f. inn. Med.*) speaks of the value of salophen in the nervous form of influenza. After referring to the favorable reports of the use of this drug by Claus and Hennig, the author observes that in the more recent epidemics of influenza nervous symptoms have been more prominent than in the first epidemic. These symptoms consist in headache, vertigo, and more or less sweating, together with pains in the back, neuralgias, etc. Antipyrin has proved serviceable in the respiratory and gastro intestinal forms of the disease, but it has not been so useful in influenza with nervous symptoms. The author says that in such cases he has used salophen with good results, and that its action is prompt, sure and more rapid than the ordinary salicylates. The maximum daily dose given was 5 g. to 6 g. In delicate subjects 0.5 g. or 0.75 g. given at first every two or three hours sufficed to arrest the neuralgic pains in two or three days. No unpleasant symptoms were ever observed. Other advantages are that salophen has no smell or taste, and is wholly without poisonous properties.—*Brit. Med. Jour.*

SURGERY.

Infections Consecutive to Exposed Fractures.—Roncali (*Il Policlino*), has made a prolonged study of this subject, and finds that exposed fractures of animals, left to themselves and untreated, give rise to infection leading to certain death. These infections are due to one or other of the following microparasites: B. edem. malign., B. pseudo-edemat. malign., Bact. col. com., staphyl. pyog. aur., and streptodiploc. septic. These and other micro organisms were found, either alone or associated in the medulla of the fractured bones. The B. pseudo edem. malign., according as it infects the organism via the blood vessels or the lymphatics, give rise to acute or chronic affections. These are in the nature of toxemias than septicemias. The B. pseud. m., if localized in the tissues, may give rise to abscess. Of the internal organs, the liver seemed the most susceptible of infective inflammation. This is probably owing to the comparatively slow circulation in it and to its glycogenic function, as it is known that the pathogenic power of a germ is increased by the addition of glucose to the nutritive medium. The medulla of the bones in animals dead from chronic infection was sometimes found in a state of hyperactivity. In the medulla of the fractured bone the following appearances were constantly observed: Breaking up of the proper elements of the medulla at the site of fracture; increase of the elements of the matrix of the red corpuscles; disappearance of the fat cells; diminution of the young nucleated red corpuscles and destruction of the giant

cells. Similar, but less marked appearances were observed in the sound medulla in the animals experimented upon. The giant cells may be looked upon as reserve elements, destined, when required, to serve as nutriment for the proper elements of the medulla. The chromatolysis which was observed is, in the author's opinion, an involutive process of the cell life, and never one of evolution.—*Brit. Med. Jour.*

Castration for Hypertrophy of the Prostate.—Rovsing (*Centralbl. fur Chir.*), who was formerly opposed to castration in cases of prostatic hypertrophy, reports a case the good results of which have led him to change his views on the value of this treatment. In an earlier contribution on this subject this author, while recognizing as an undoubted fact the rapid atrophy of the enlarged prostate after removal of both testes, held that it was *a priori* very improbable that in cases of complete and chronic retention the bladder would ever regain its capacity for contraction. It was, he argued, useless to remove the obstruction when the bladder had lost its function of expelling urine. The persistence of retention in spite of regular and repeated catheterism, was, in his opinion, a conclusive indication that this function of the bladder had been hopelessly abolished. The case which has upset these conclusions is one of a man aged 85, who, although for eleven years he had not passed a drop of urine except by artificial means, was able two months after bilateral castration to make water without pain and with normal frequency, and so freely that the residuum at the end of 24 hours amounted but to 30 c.c.m. This unexpected result followed an operation which had been performed simply with the object of facilitating the introduction of the catheter. The clinical fact here recorded renders it very difficult, the author points out, to explain the occurrence of complete retention in cases of prostatic enlargement by the views hitherto held by surgeons. The restoration of the contractile capacity of the bladder after so long a period of apparently hopeless abolition is an observation quite opposed both to the views of Guyon on co-ordinate anterior sclerosis, and to the purely mechanical explanation, according to which the primary healthy bladder, in its struggles to overcome the obstruction caused by the enlarged prostate, becomes at first hypertrophied, and subsequently over-distended, atrophied, and paralyzed. The persistence of the latter morbid conditions during a period of eleven years would, it is argued, have resulted in irretrievable loss of the contractile function of the bladder. Whether retention be due to alterations in the size and form of the diseased prostate, or whether the loss of vesical contractility and prostatic hypertrophy are two co-ordinate results of a single and as yet unknown cause, are questions which remain open. A correct explanation, it is believed, may be attained by a close study of the interesting and obscure connection between the testes and the prostate, the existence of which has been proved by the unquestionable results of castration in cases of prostatic hypertrophy.—*Brit. Med. Jour.*

NOTES AND ITEMS

"Cold in the Head" in Infants.—J. Bermann, of Washington, thinks cold in the head in infants very frequently leads to serious trouble later in life and ought not to be neglected, as it too often is, but should be treated with a two per cent solution of nitrate of silver applied to the throat with a soft brush. Care should be taken not to use the fluid so freely that it will drop into the larynx. If the child makes any noise in breathing through the nose the next day apply the nitrate of silver again. By treating an acute rhinitis in an infant, catarrh, deflections of the septum, or affections of the ear may often be avoided.—*Archives of Pediatrics*.

Notice to Librarians and to Physicians Having Unused Medical Periodicals.—Dr. George M. Gould, of No. 925 Walnut Street, Philadelphia, request librarians or medical societies, colleges, and associations to send him lists (with precise dates, etc.) of such periodicals as they need to complete their files. He also begs physicians (or legatees) to send him accurate lists of such periodicals (or books) as they are willing to donate to libraries. Lists only are desired, not the periodicals themselves, until after correspondence it shall have been determined:

1. Where they are needed.
2. Where they will be properly cared for.
3. Where they will do the most good to medicine.

It is Dr. Gould's intention to aid established libraries in completing their files by thus forming a kind of (free) exchange, and to encourage the formation of new public medical libraries by utilizing some of the vast number of valuable medical publications at present going to waste or destruction.

Hemorrhage Following the Extraction of a Tooth Arrested Instantly by Ethyl Chloride.—The *Lancet* for January 25 publishes the following report of a case by Mr. A. E. Hind: The patient, a girl twenty years old, had a tooth extracted at noon. At ten o'clock at night she was bleeding freely from the socket of a lower molar tooth, and she stated that the bleeding had been continuous since the extraction of the tooth. Pressure and plugging with perchloride of iron had been resorted to without any result. Remembering, says the author, a similar case in which all ordinary methods of treatment had been resisted, he resolved to try freezing with ethyl chloride spray. After clearing out the clots, the author used the spray and was able to stop the bleeding immediately. To prevent its recurring, he plugged the socket with wool soaked in tincture of hamamelis. There was no pain, and no more blood escaped. Although ethyl chloride is used for producing anesthesia in small operations, this case, says Mr. Hind, suggests a further use of it.

PUBLISHER'S DEPARTMENT.

WE ARE pleased to note the rapid growth in professional favor of that ingenious and useful ob-tetrical device, Kellogg's Elastic Ring Applicator. *La Clinique*, a French magazine, closes a brief review of the history of Kellogg's Elastic Ring Applicator thus: "When this instrument is adopted in current practice we shall hear no more of umbilical hemorrhage of the new-born. It is, indeed, high time the uncertain, prehistoric string were relegated to the limbo of bygone crudities."

PANCREATIC DIASTASE.—The importance of a good diastase ferment is very apparent when it is considered that fully two-thirds of the food of mankind consists of starch, and that Amylaceous Dyspepsia is on the increase. Pepsin has the power of digesting proteids, such as meat, eggs, etc., but has no effect on starchy foods. Pancreatic Diastase, therefore, which has lately come into vogue, should have a much larger demand than ever was accorded to Pepsin. The best preparation of it is "Diastase-Stearns," which is prepared by Messrs. Frederick Stearns & Co., of Detroit, Mich., from the pancreas of the hog by a special process, and has the advantage of being cheaper than any diastase of vegetable origin, and at the same time far more active as a digestive.

PROLONGED HICCUGHS.—A prolonged and severe case of hiccoughs lasting seventy-two hours without cessation is reported in the *Lancet* by Dr. Ferguson. The case was treated unavailingly by chloral, camphor, ether, aromatic spirits of ammonia, galvanism to the phrenics and ice to the spine. As a last resource one-half grain of morphine with one-sixtieth of a grain of atropine was injected hypodermically, which produced alarming toxic symptoms. Those that have used Borine in doses of half a teaspoonful of water claim that it relieves the hiccoughs instantly and have testified accordingly. Borine is both a reliable internal as well as external antiseptic and possesses no toxic or irritating qualities.—*Pacific Medical Journal*, February, 1896.

JAMES HART CURRY, M.D., in writing to The Abbott Alkaloidal Co., Station X, Chicago, says: "When I look back upon more than forty years of practice in the old rut and think of the useless luggage I have borne about a rough country and dispensed to a suffering clientage, and now find unspeakably better results from the exhibition of your never disappointing alkaloidal preparations. I can hardly realize the delights of the new era. I am not only determined but thankful to change the old for the new and continue with delight the practice of medicine which I was just about giving up. I want the *Clinic* and all the rest of the alkaloidal literature. It makes me a boy again."

Send for price-list, literature and free sample copy of *The Alkaloidal Clinic*.

IMPERIAL GRANUM.—There is one dietetic preparation that goes on in the even tenor of its way, always a popular food with the doctor when no other one can be, or will be, retained on the stomach. It is carefully prepared, never disappointing, always a valuable aid to the busy doctor. Easily assimilated, with the greatest possible amount of nourishment, combined with the minutest amount of labor in its digestion, Imperial Granum stands to-day, without a rival, in the room of the sick or convalescent. While good for children in all the varying periods of their existence, yet its strongest hold is in the sick room where either adult or little one needs a soothing, sustaining diet with the least amount of physical effort for its digestion.—W. C. Wile, A. M. M.D., in *The New England Medical Monthly*, December, 1890.

MEDICAL REVIEW,

A WEEKLY JOURNAL OF MEDICINE AND SURGERY.

VOL. XXXIII.

ST. LOUIS, MARCH 7, 1896.

NO. 10.

ORIGINAL ARTICLES

On the Systematology of the Bacteria.

BY DR. C. FISCH.

Read before the St. Louis Microscopical Society February 20, 1896.

All of you, G., know, that though bacteria have been known to science (need I remind you of Ehrenberg's beautiful drawings?) for almost a century, yet it was only when their bearing on human welfare and on Nature's economy in general became impressed on our mind, that interest in their nature grew more intense, so much so that in these days bacteriology is allowed to stand equal in importance to any other branch of human knowledge. The methods of obtaining, cultivating, examining bacteria are improved and facilitated to a degree, that they are in reach of everybody that commands ordinary ability, and so are the ways of deciding by experiments, whether a certain form of bacterial life will affect our interests (directly or indirectly) in a certain way or not. The flash light that Koch's genius threw on a field of hitherto utter darkness, and that he made penetrate into the deepest recesses, has revealed wonderful things; he and the untiring work of others, all of them more or less sailing in his wake, have succeeded in revolutionizing much that seemed until then founded for eternity. and in changing the life-habits of whole nations. Much more they will do in the future. Of course I am not including here that class of so-called bacteriologists, who lay claim to this title for the reason that they know how to isolate and cultivate bacteria, and who like to expatiate on the advantages of this or that stain.

But the very nature of the work done by Koch and his followers with its tendency of comforting life and subduing all elements hostile to man explains, that, though our knowledge of the structure, life and development of bacteria necessarily has been vastly enlarged by it, yet a couple of questions have only met with casual regard. *What is the place occupied by the bacteria in the range of organic life as seen by the light of the evolutionary theory, and which are the connections and*

relations of the different forms of bacteria among themselves? For a scientific conception of any class of organic beings both of these questions are of paramount importance; as far as the class of bacteria are concerned, only a few investigators, among whom I mention, de Bary, Buetschli, Zopf and Fischer, have made an attempt at answering them. So all absorbing, however, has been the interest in the practical side of bacteriology, that even to-day the systematic valency, *sic venia verbo*, hardly ever is touched upon, and that bacteriologists are, nearly all of them, satisfied with a classification that takes its differential characters from pathogenic or non-pathogenic effects, from liquefying or non-liquefying qualities, from aerobic or anaerobic mode of life and the like. The services, that the Linnean system has rendered to botany will never be forgotten; in its time it was an invaluable boon; nevertheless we now know that it was a mistake, a lie, a word that holds good, with proper restrictions, for every product of art. Bacteriologic classification, too, will have to learn to walk without the aid of those crutches, I hinted at; moreover, it is due to the exertions of the above-named investigators, that already a foundation has been laid, on which the structure of a natural system of bacteria is to be erected. May I be allowed to tax your attention with a discussion of this matter at some length.

As to the systematic position of the whole class of bacteria, it has become customary to affiliate them with the class of fungi, though it must be confessed, that within the last few years the vague terms "germs" or "microbes" have to a great extent done away even with this faint approximation at a systematic conception. The lack of chlorophylle, the missing faculty of decomposing carbonic acid, and of simultaneously forming organic matter, can be conceived to prompt such an assertion, and, above all, certain and peculiar forms of disintegration (fermentation, putrefaction), that are the results of parasitic or saprophytic growth, both of bacteria and fungi. But on closer examination these physiologic or biologic characteristics are found to be but of little avail, where a systematic definition is attempted, that means, where an insight into the phylogenetic connection of a certain group of organic beings with others shall be attained. Here only a comparative study of the morphology and of the course of development of the organisms under discussion is admissible, as which alone preserve the traces of former stages of evolution. You certainly would not, on account of their albinism,

into any close relation whatsoever a white rat and a white deer.

So our purpose of deciding, whether there are any relations of affinity between fungi and bacteria, or whether there are none, will be best served by a bird's eye view, as it were, at the morphologic and developmental peculiarities of the one and the other. Before entering on it, I may briefly state, that the fungi proper form an entirely natural series of organisms, in which the simplest and the most complex forms are connected by innumerable, gradual transition stages.

The vegetative organ of the fungi proper or the so-called mycelium forms generally a multifariously branched, interlaced and anastomosing filamentous system, either articulated by transverse septa and multicellular, or without articulation altogether. It is the latter type of mycelium, that obtains in the lower classes, while the more highly organized ones represent the former, which by a surprising variety of modes of growth produces that multiplicity of forms and types characteristic for the higher fungi. As to the histologic structure of these filaments or hyphæ, it may be said, that it does in no material way differ from the structure of the cells of other organisms.

On this mycelium now, though it by itself has the faculty of giving rise to a kind of propagation by simply dividing up into several pieces, the organs of reproduction, asexual and sexual, are formed. As to the asexual ones it is entirely impossible to differentiate intrinsically between their lowest types and the simple falling to pieces of the mycelium just mentioned. In very many cases we see, that the whole process consists merely in separating off the mycelium, some cells, which, in their turn, having the function of gonidia, initiate the existence of a new generation. But even on very low steps of the ascending scale of development, those portions of the mycelium, from which gonidia are to be detached, receive an especial organization, thus originating the unbounded variability and multiplicity of forms, which, for instance, the so-called moulds present to our examination. Even the most highly developed fungi, the toadstools or mushrooms, represent morphologically nothing else, than the gonidioferous organs of organisms, the vegetative system or mycelium of which is usually overlooked.

On the first look, from this mode of gonidia-formation another materially differs, which, among others, we find pronounced in the group of *Mucorinæ*, and where the gonidia or spores, instead of being detached externally, are formed in the lumen of separate cells, called sporangia, and are liberated by the bursting of the wall of the latter. The progress, however, that the study of cell-division and -formation has made of late years, does away with this apparent discrepancy and puts it in its proper place as merely a biologic variation.

While from a physiologic point of view the asexual propagation plays the more important part in the life of the fungi, phylogenetically of more interest is the sexual reproduction, which goes along with the former,

though not in regular alternate generations, but, as it seems, in irregular intervals, alternating with it or accompanying it. In the lower types this act consists in the copulation of two morphologically peculiar, but to all utter appearance homologous cells, the result of which is represented by a spore (so in *Mucor*, etc.). But as we ascend to higher types these cells are differentiated into a female or conceiving, and a male or fecundating one, which act upon one another exactly in the same way, as do the homologous cells of the higher animals or plants. It is with regret that I have to refrain here from entering into some exceedingly interesting details. Directly (*Peronospora* f. inst.) or apparently indirectly (many *Ascomycetes*) one or several spores form the progeny of the parent cells; these spores at once or after a period of rest, begin to germinate and to give rise to a new cycle of development.

Only a small number of lowly organized fungi differ from what I have roughly sketched here, inasmuch as their vegetative system appears very much reduced (yeast-fungi), or even represents but an ameboid mass of protoplasm. Their mode of reproduction, however, never is found to be at variance with the one described.

If with regard to the points mentioned we undertake to compare the different groups of fungi, we are unavoidably bound to recognize their phylo-genetic connection. With a probability, next to certainty, we can follow up a natural succession of types, beginning with some of the lowest forms and concluding, most likely, with our well known mushrooms. Further study, moreover, reveals the fact, that those lowest forms, with which our series begins, are unmistakably related to certain groups of green organisms, of algæ, from which they are derived by regressive metamorphosis in a biologic sense, that means by the loss of chlorophyll and the consequent necessity of taking to parasitic or saprophytic habits.

But this comparison yields still another very remarkable observation; we can not fail to notice, that as the types grow more complex and of higher grade, the sexual function degenerates. The state of inertia of the sexual organs, in some forms, is replaced by a rudimentary development of the same in others, until at last they have ceased to be formed altogether, so that in the toad-stools for instance, we in vain are looking for any trace of sexual activity. Yet this very regressive development seems to be the instigating cause for a progressive metamorphosis, as far as the asexual reproduction is concerned, as evidenced by the complex phenomena in the just mentioned mushrooms.

And now let us review in the same cursory manner the main points of the morphology and development of bacteria. Here the vegetative system never goes beyond the state of single cells or chains of cells, which (without mentioning the exceptionless enormous difference in size as compared with those of the fungi) are characterized by a membrane of peculiar, often gelatinous consistency and an apparently homogeneous protoplasm of highly refractive quality. It must be confessed, how-

ever, that many of the so-called peculiarities of these cells do not stand the test of closer examination. As soon as we abandon the hitherto used methods of preparing bacteria (especially the processes of drying and heating), and apply those, that offer themselves as suitable in other histologic researches, we find an almost perfect congruity between the cells of bacteria and those of other organisms. Not only is their protoplasm arranged in the shape of a sac, as is the case in so many organisms, a sac, that is capable of plasmolysis, that means, contracts on the application of a solution of higher osmotic power than that of the fluid contained in the cavity of the sac; it contains also a nucleus, that in every respect resembles other cellnuclei. The latest triumph of histologic research is the discovery of karyokinesis and of mitotic division in the cells of bacteria, that now is established beyond a doubt.

A very important and widely distributed organ of the cells of bacteria are the flagella or cilia, serving as organs of motion. Their number and position is very constant and therefore an exceedingly valuable classificatory moment, though it is not a very easy task to demonstrate them in any given case.

Very characteristic and peculiar is the mode of propagation, which is always effected by a simple division of the cell in transverse direction; the parts separate or remain attached to one another, in the latter case forming those chains or threads of cells above mentioned. They mature rapidly and repeat the same process indefinitely. Only in a limited number of cases divisions occur in other directions, so that other forms of cell-agglomeration result (*Sarcina*, *Leuconostoc*).

Under certain conditions, which are not yet plainly understood in every case, restive spores or cells endowed with a great resisting power are formed; for this purpose, either the cell as a whole undergoes the peculiar transformation, or only a portion of the protoplasmic body of the cell. After a more or less prolonged period of rest the spores begin to swell and finally bud into the normal cells of the respective species.

In conclusion of these remarks I may add, that the different types of bacteria, while on the one hand they conform without any exception with the just named characteristics, they on the other are unconstrainedly linked together into an uninterrupted series, which beginning with the lowest gradually ascends to the more complex forms of bacterial life. It is in the latter that we find features reminding us of phenomena of higher organic life.

What then, we ask, are the relations, that systematically connect bacteria and fungi? Stretch, as we may, our power of imagination we will find nothing except the fact, that they are uni- [or multicellular, lowly organized beings, both of them. Not a single step in the whole course of development of either of them offers material for a comparative study. There are only two suppositions left by which a phylogenetic connection between bacteria and fungi could be maintained, asserting that the former are either phylogenetically precursors

(ancestors, as it were) or reduced (degenerated or rudimentary) descendants of the latter. But it can be shown that both of these suppositions are untenable.

As to the first of them it has already been mentioned, that some of the lowest fungi appear to be directly derived from certain algæ, of which, in fact, they simply seem to represent the chlorophylleless state. Absolutely certain it is, that the relations between algæ and fungi are so close and natural, that *only lower forms of algæ can have been the precursors of the fungi*; for bacteria, there is neither room, nor need in these relations.

The second supposition is routed by a similar argumentation. We are above all indebted to the labors of Zopf for our intricate knowledge of the close connection that exists between the bacteria and a group of organisms known as *Cyanophycæ*, which, to cut a long story short, are in all respects like the higher thread forming bacteria, only that in addition they possess chlorophylle, and therefore are no longer parasites nor saprophytes. Irrefutably these two groups of organisms belong together, and their connection plainly shows, that we have to deal here with an autonomous group ascending in its highest members to a comparatively high degree of organization. The peculiar mode of spore-formation, besides, would by itself defend any derivation from the fungous tribe.

Thus we arrive at the final conclusion, that bacteria and fungi are phylogenetically entirely independent from one another. There is only one group of organisms, but that a large and kaleidoscopic one, to which our search for bacterial relations can be directed, the *Flagellata*, that vast and little known tribe, that on further investigation most likely will prove justified to lay claim to the title "cradle of organisms." Notwithstanding our knowledge is very limited yet, we know that in this group morphologic states exist and developmental processes are going on that very closely resemble those found in bacteria. So, for instance, here only analogous, not to say homologous, phenomena occur to the formation of the spores of bacteria. Investigation is just now directed to these questions, so we may hope that within not too long a period we shall be more fully prepared to answer them.

Only a few more words I venture to force upon your patience in regard to the classification of the different forms of bacteria among themselves. I need not enlarge on the utter weakness of the system now in vogue, the less, as I presume, that everybody uses it only as an Ariadnean thread through the intricacies of the bacterial world. It is, in fact, but within the last few years, that we have been taught to look upon these organisms in a systematic point of view with the same looks as we do on other plants or animals. But it must be confessed at the same time, that until then there was very little possibility too of doing so. We knew so little about the real structure of their cells, the real course of their development, and but seldom someone went beyond casuistic descriptions. When de Bary tried to beat a path

with his differentiation between arthrospore and endospore bacteria, very few dared to follow him. This distinction was conscientiously recorded in every text book on bacteriology, but it was never made a base for further researches. Yet on it hinges bacterial classification; presence or absence of flagella, their number, position and distribution are the next important character, to which in the endospore forms the shape of the sporiferous cell is added. Though our knowledge may be ever so imperfect yet, we are already able to arrange a great number of forms in natural groups; though we are only at the beginning, that much we know, that further on, mere morphologic terms (*bacillus f. inst.*) can no longer have any systematic meaning, but that in the same way physiologic characteristics too (pathogenic, liquefying, aerobic, etc.), have lost their deciding momentum. Of course this does not tend to purport, that their value and importance for practical purposes, shall be done away with; what I want to intimate is merely this, that what hitherto we called classification of bacteria, was without intrinsic scientific value altogether; that moreover it has become unnecessary, since now with the data lately furnished by investigation at hand, a successful attempt can be made at bringing forth the true pedigree of the whole group and the mutual relations of the single forms. Perhaps at some other time I shall enter into this latter subject a little more profusely.

Some Points on General Anesthesia.

BY ROBERT FUNKHOUSER, M.D., ST. LOUIS.

Read before the St. Louis Medical Society, February 8, 1896.

My excuse, if any is needed, for the presentation of this subject for your consideration to-night, lies in the fact that our esteemed President requested it. Perhaps it would have been more appropriate had the title read, "Some Old Points," etc., for what I have to offer is not new, but old, and the changes have been rung many times and oft. There are some subjects and many points connected with them that can not be too forcibly emphasized, and, although old and somewhat hackneyed, are also ever new and vital; and general anesthesia and anesthetics are not exceptions. Strange to say, as far as I can recall, there has been no discussion of this subject before this Society within the last ten years.

The eventful discovery of the application of general anesthetics marks the beginning of the most brilliant epoch in surgery, but the use of the principle anesthetizing agents has not been and is not devoid of danger. No tyro should be permitted to administer them. Many accidents occur from carelessness and recklessness, but there have been (and will be) a few where apparently they could not have been foreseen, nor could they have been prevented. Like a thief in the night they come upon us unexpectedly and without warning, and no doc-

tor knows when his turn may come next. So far I have not met with an accident, but every time I administer an anesthetic, or see it administered, my fears and anxiety increase and I feel that the gravest responsibility rests upon, and perhaps the greatest share of credit and honor of an operation is due to the anesthetizer.

The principal aims of anesthesia are to abolish, first, sensation, and, second, reflex action. If more than this is accomplished, danger and death follow from paralysis of nerve centres, of respiration and circulation.

The most reliable and satisfactory agents are chloroform and ether, or a mixture of these agents with alcohol, called the A. C. E. mixture, which contains one, two and three parts of alcohol, chloroform and ether respectively. Each has its adherents. Their distinguishing characteristics may be briefly noticed. Chloroform is more agreeable, ether less so. Less chloroform is required and its action is more rapid. Ether is more irritating to the kidneys and lungs and respiratory tract. Vomiting is more apt to occur after ether, although it may not last as long as after chloroform. By some it is claimed that the action of chloroform is "capricious" and irregular, but, on the other hand, from comparatively recent reports, it would appear that the action of ether is sometimes latent and continuous. Ether is very inflammable and should be used with great caution where there is exposed artificial light. Chloroform has a greater tendency to slow the heart's action and weaken the vaso motor centres. Although, when death ensued from the use of chloroform, it was due to paralysis of the heart in a great majority of cases; there has been a larger proportion of deaths from paresis of the respiratory center than has been credited to this cause. Relatively speaking, in ether inhalation there is apparently more irritation of the fauces, more coughing, more copious secretion of mucous, a greater tendency to struggling, and more flushing of the face than in that of chloroform. The circulation is more rapid with ether than with chloroform, the pressure being greater in the one than in the other. The stage of rigidity is more apt to occur from ether than from chloroform, especially in drunkards and strong men, and is accompanied by dangers. When a temporary cessation of breathing occurs great care should be taken to avoid the inhalation of air fully charged with vapor at the succeeding deep inspiration.

Death from anesthesia may result from asphyxia and from reflex inhibition of the heart, respiratory or vaso-motor centers. It does not always occur in one particular way. Previous inhalations do not guarantee safety. There is no relation, as a rule, between the severity of the operation and danger. Death does not always depend upon the quantity of the anesthetic taken. Death by paralysis of the center of circulation is more frequent than by any other manner. It may result from too concentrated vapor. It may occur during partial anesthesia by surgical procedures, the impression extending to the heart. It may occur during the period of excitement by swallowing the tongue, by a closure of the epiglottis, or by the glottis being closed

or obstructed by a bending forward of the head; or the patient may forget to breathe. There may be obstruction of the air passages due to foreign matter in the bronchial tubes, trachea, larynx, or pharynx. In cases of fatal chloroform narcosis death is not always due to overdose of the drug, nor to its action on a fatty heart. Whatever changes occur in the tissues from the administration of chloroform seem to be evanescent. Those discovered after death are usually of a chronic nature and pre existing. Both chloroform and ether remain in combination with the tissues for a long time, and even cooking will fail to eliminate them.

Anesthesia is divided into various stages, by some authors into two, by others into three or four. The simple division into conscious and unconscious is preferable, as it is difficult to follow the gradations during the unconscious up to the unconscious stage. There are alterations of function manifested, as a rule, in a regularly progressive order, first indicated by Flourens as beginning in the cerebrum, in excitement with the various intellectual disturbances, extending to the various motor centers and tracts in the cerebrum, cerebellum and pons, then to the posterior half of the spinal cord with its sensory nerve roots, which is succeeded by impairment of the anterior nerve tract. The medulla oblongata, in which are situated the centers of circulation and respiration, is the last to be affected. After the usual stimulation and excitement that inaugurate its action the tendency and danger of its effects is toward paralysis.

One of the chief aims is to prevent the transmission of the powerful nervous impulses from the part operated upon to various centers, but especially to the cardiac center. Another is the prevention of the same result by the sudden and rapid administration of the anesthetic. I have noticed, in my experiments on animals, in some cases, where death ensues, that the heart is strongly contracted, the lungs sometimes bloodless and the right side of the heart sometimes filled with blood, usually the result of a sudden and quick entrance of the drug. This is analogous to what is seen in the voluntary muscles during the process of anesthetization. I very much doubt the likelihood of the direct action of an anesthetic upon the muscular tissue of the heart, whether through the so-called secondary centers in it, or directly upon the inherent contractibility of its muscular fibres, but incline rather to the theory that it is transmitted from the medulla oblongata. When the administration has been gradual and a lethal dose given I have found the organ distended, it having ceased to beat in diastole. Sudden death in the early stages is, no doubt, due to the inhibitory impulse from the medulla oblongata through the pneumogastric nerve. It has been said the tendency is to retardation of respiration, to the falling of blood pressure, to the loss of energy of heart beat and rapidity of motion. I have noticed that even after the respiratory movements have ceased a feeble pulsation of the heart sometimes continues. The functions of respiration and of circulation, however, are so closely connected, and the centers in the medulla oblongata so in-

timately related, that one can not be affected without the other.

The condition of the pupils is of interest, as they differ somewhat in the action of the two drugs. I agree with DaCosta, that they are worthy of study. In the commencement of anesthetization they dilate, and as the influence deepens they contract, but are not so uniformly contracted in ether as in chloroform narcosis which is indicative of weaker action on ocular nerves and of the better cerebral circulation in the latter. When too much of the agent has been administered they widely dilate, which is due to paralysis of the oculo-motor influence and the continuous action of the cavernous branch of the sympathetic upon the iris. As a rule, if anesthesia is deep the contracted pupils will not react to light; if it is profound they dilate but do not react to light. It is well always to remember that a dilated pupil reacting to light with conjunctival reflex action means that anesthesia is not complete, that a contracted pupil reacting to light without conjunctival reflex action means moderate anesthesia; that a contracted pupil not reacting to light without conjunctival reflex action means deep anesthesia; that a dilated pupil not reacting to light without conjunctival reflex action means dangerously profound anesthesia.

An operation having been deemed necessary, the first duty of the physician or surgeon is to prepare, or make ready, the patient for the operation; and by this is meant the establishment of an equipoise of the mind, a quieting of the fears of the patient, not only of the fears of the operation, but also of the administration of the anesthetic, which is equally as, if not more important. This point is too often lightly overlooked in the pros and cons of an operation. I am convinced that many more unfavorable results are due to this factor than to any other.

Examine the patient thoroughly. Inspect his mouth. In cases with respiratory trouble, especially in older persons and in young children with delicate mucous membranes; in cases with disease of the kidneys; in cases with diabetes; in operation on arteries (as ether increases quantity of blood in veins); and on drunkards chloroform should be used in preference to ether. If there is a heart lesion an anesthetic is preferable, and chloroform, in competent hands, is to be preferred to ether in all cardiac complications, with perhaps one exception, viz., fatty degeneration, when ether or the A. C. E. mixture should be used, although chloroform, in this condition, has many times been safely given, as muscular contraction and rigidity are not as apt to occur.

The urine should be examined when possible. The specific gravity of a given amount should be taken, a test made, not only for albumen and sugar, but for urea also. If there is a large amount of the former or a small quantity of the latter, the operation should be postponed, and in the interim appropriate treatment for the condition followed. I think that not sufficient importance is attached to the amount of urea in the urine; for gra-

disease may exist without the presence, at times, of albumen, and it is by testing the quantity in 24 hours that the true status can be approximated. Do not weaken the patient by purging unnecessarily, but have the bowels freely opened for several days before the operation. Do not give solid food within four hours before the operation; a little milk or beef tea or food of that kind may be advisable. If the heart appears to be weak give strychnia a few days before operation.

The clothing should be loose about the neck, chest and abdomen, and a full view of the respiration obtained.

Accessories. Tongue forceps, covered with rubber and so constructed as to cause the least injury to the tongue. Mouth gag, battery, solutions of strychnia, atropia (digitalis), whiskey or brandy, nitrite of amyl and nitro-glycerine. Where there is no contraindication, a hypodermic injection of morphia before operation will have a tendency to prevent vomiting and to produce anesthesia with a minimum quantity of the anesthetic.

Never give an anesthetic without a witness.

As a rule, the patient should not be anesthetized in the same room where the preparations are being conducted, and the assistants should be kept out of sight until anesthesia is complete. During administration no unnecessary conversation should be indulged in by any one, as hearing is the last sense lost. In giving an anesthetic the patient should be in the recumbent position.

The most convenient inhaler for chloroform is Esmarch's apparatus; for ether the Allis inhaler, or one that I have devised. The eyes should be protected by a cloth the lips by vaseline. The chloroform vapor must be thoroughly mingled with air, never over 5%, and should be administered *gradually* by dropping 4 to 6 drops upon the inhaler at a time, so as to accustom the patient to the process, as he will be less liable to struggle and become rigid. The administration of ether should be begun with a very weak vapor and comparatively gradually increased; a large quantity must never be suddenly added as it causes severe coughing and very often vomiting.

Special attention should be paid to the treatment of the complications. In syncope every effort should be resorted to to revive the patient, and Nature's efforts should be anticipated. The anesthetic should be stopped, the tongue drawn forward, artificial respiration resorted to, even though the breathing has not ceased, for it is to be remembered that the chest and abdomen may move without the entrance of air into the lungs. Lower the head or, if necessary, invert the body, as recommended by Nelaton. Hypodermatic injections of strychnine, ether, brandy, nitrite of amyl (the latter is sometimes used in the form of vapor to the nose and is very efficacious, although its value is doubted by some). Shock is manifested by an irregular weak pulse, extreme pallor, slow respiration, cold extremities, profuse clammy sweat. The anesthetic should be withdrawn

in this case, hypodermatic injections of strychnia, nitroglycerine, brandy or atropine given, and heat should be applied to the trunk and extremities. If the patient forgets to breathe remove the anesthetic temporarily and slap the patient, or open the mouth and pull the tongue forward. Obstruction to breathing may be caused by the head being too far forward, which may be corrected by elevating the jaws and extending the head. If the patient swallows the tongue it should be drawn forward. If the epiglottis is closed the head should be allowed to hang over the edge of the table and forcible extension performed. In all cases of interference with respiration Howard's, Sylvester's, Nelaton's or any other method to overcome the complication should be resorted to. When there is vomiting the head should be lowered and turned to one side, so as to prevent the entrance of matter into the respiratory tract.

After removal from the table the bed should be prepared with hot bottles to receive the patient. Food should be restricted and teaspoonful doses of hot water, or of brandy and water, should be given for some hours after.

Many more points might be mentioned in connection with the momentous subject, but it is hoped sufficient has been said to effect an expression of opinion—a discussion.

Though my remarks pertain to general anesthetics, perhaps it will not be out of place to refer, in conclusion, to the growing favor of the Schleich infiltration method of local anesthesia, which has come to stay. Many operations which have been performed under anesthesia in the past, will in future be relegated to this method.

In conclusion, I desire to call your attention to an anesthetic case which I have devised, and which contains everything necessary in this procedure. Reservoir for ether, A. C. E. mixture, chloroform reservoir, dropper, Esmarch's apparatus, my own ether inhaler, brandy, nitro-glycerine, nitrite of amyl in solution and in pearls, digitalis, strychnine, morphine, and hypodermic syringe. For local anesthesia a syringe, tablets of cocaine, morphine, and salt, strong, normal and weak, as suggested by Schleich.

The Results of Hysterectomy for Cancer.

—Dr. Mangiagalli, of Milan (*Atti della Societa italiana di ostetricia e ginecologia*, 1895; *Centralblatt f. Gynaekologie*, Feb. 1, 1896), generalizes as follows from his own large experience and from records of cases published by others: The mortality is greater, after operations for carcinoma of the body of the uterus than after those diseases of the cervix, and in cases of carcinoma of the cervix the prognosis is the more favorable the less the disease is found to have advanced to the vagina and into the parametria. The prognostic influence of the method of operating is less evident. Seventeen of the author's own patients had remained free from relapse for two years.—*N. Y. Med. Jour.*

MEDICAL REVIEW.

EDITORIALS

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PUBLISHED UNDER THE AUSPICES OF THE
MEDICAL REVIEW ASSOCIATION

By O. H. DREYER.

YEARLY SUBSCRIPTION, \$3.50. SINGLE COPIES, 10 Cents.

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All letters whether intended for publication or not must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of the meetings of their respective societies, and of officers elected.

Members of the profession who send us information of matters of general interest to our readers will be considered as doing them and us a favor, and we shall take pleasure in inserting the substance of such communications.

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Entered at the St. Louis Postoffice as Second-Class Matter.

A Nuisance and Prospective Reform at the City Hospital.

We are pleased to learn that a reform is to be instituted by Health Commissioner Starkloff with regard to an apparent nuisance at the City Hospital. The Superintendent of the Hospital, Dr. Sutter, has made the complaint that many cases at the Hospital have been lectured on during his administration by a number of teachers of the various medical colleges of this city with the natural result that there was some difference of opinion with reference to diagnosis and treatment. This fact, the Doctor very pertinently claims, having a demoralizing effect upon the patients. Moreover, the Superintendent and his corps of assistants were held responsible for the results following any operation performed by the surgeons of the colleges, while the duties of the latter, under the present arrangement, end with the operation. The after-care being left entirely in the

hands of the Superintendent of the Hospital and the resident physicians.

It is claimed that some of the surgeons, in case of a disappointment in the result of an operation, have blamed the after-treatment for such consequences, and even informing their classes to that effect; while, on the other hand, in case of a good result, the perfect operation had been claimed as the only factor in a favorable termination of the case.

At first sight it would appear as if these statements could only be the result of a vivid imagination, as a medical teachers' principles ought to be above such a level; but upon closer scrutiny, and considering the good judgment and love of veracity of the Superintendent, his complaints appear to be justified and the plan of the Health Commissioner to create a reform in this state of affairs appears to be timely and just.

The responsibility of operations should be equally shared by operator and those attending to the after-treatment and to blame the latter in case of poor results, reflects in the highest degree upon the character of the surgeon who performed the operation. A surgeon has no moral right to leave a patient, whose life and health is placed in his hands, to the care of individuals who have not his confidence with reference to ability and a conscientious devotion to duty; and unless he feels certain that the after-treatment is properly attended to, it is his duty to attend to it himself. But whatever he may do, under no circumstances should he blame others, openly or insinuatingly, for the result of his own operation. Such a course of action is, to say the least, exceedingly improper. Of course, every surgeon should, in order to avoid future errors, discuss with the anesthetist and his other assistants in the operation, any mistake that may have occurred during or after an operation or any method of procedure that may be improved upon. It must also be admitted that the students should know the presumptive, probable or exact reason for an unsuccessful result. But then, this may and should be done in a manner which does not create the impression of trying to transfer the responsibility from the operator's shoulders to those of any of his colleagues or nurses.

The intention of the Health Commissioner to hold each surgeon responsible, not only for the operation, but also for the after-treatment is, therefore, a most laudable one.

It is, moreover, high time that a staff of visiting specialists should make daily rounds at the City institutions and direct the treatment of the patients. It is an impossibility for the Superintendent and the resident physicians to be capable of attending correctly to every case coming to the Hospital and the management of some of the advanced European or Eastern hospitals should be imitated. The present system may have been appropriate fifty years ago; at this period of medical progress it is a ridiculous barbarism, entirely out of harmony with intelligent modern hospital management.

It is to be hoped that Dr. Starkloff will continue in

his endeavors of bringing about a reform in our City Hospital management in the sense above indicated and he may be assured of the co-operation and gratitude of the best elements in the St. Louis medical profession.

Judging from articles in the daily press it appears that the Health Commissioner intends to make it the duty of every operator to visit his patients after the operation and attend to the after-treatment; in other words, to shift the whole responsibility for the eventual results upon the operators' shoulders, thereby preventing the present annoyances of the hospital physicians.

The Use of Roentgen's Rays Without the Aid of Photography.

The direct inspection of the body by the aid of Roentgen's rays for medical purposes—without the aid of photography—is accomplished in the following manner: On one side of the object, in a dark room, is placed a tube, covered with black cloth, from which Roentgen's rays are emanating, on the other side a paper screen covered with barium platino-cyanide. By looking through the paper screen the observer will see whatever can be reproduced by a photograph, with the advantage, however, that the object of examination may be moved in various directions whereby a quicker and more precise localization of objects and the position of internal organs is accomplished.

The Berlin physioist, Carl Caroli, is said to have first made use of this method of examination and various well known Berlin physicians have employed it in localizing foreign bodies in the tissues of patients.

According to the *Medical Record* of February 22, Professor Salvioni is reported to have invented an instrument which enables the human eye to see through opaque objects. The instrument consists of a cylinder of cardboard, the inner surface of which is coated with a material that becomes fluorescent under the action of the Roentgen rays. The lens is at one end of the cylinder. The object to be examined with its coverings is placed between a Crooke's tube and the cylinder; on looking into the tube through the lens the observer sees the outline or shadow of the concealed object, which is thrown on the fluorescent interior.

The Public Library and the St. Louis Medical Societies.

On a former occasion we have called attention to the tardiness with which the various medical journals at the Public Library are bound and catalogued. Innumerable unbound volumes of journals are still in their old places in locked closets and with strings tied around them. Access to these journals appears to be an impossibility for one wishing to systematically peruse the literature upon a medical subject. But, worst of all, none of the home and foreign weekly journals of 1896 can be found in their respective shelves for ready reference.

This used to be different when each medical society had its own library. The newest journals were always in their places and open for inspection and the societies have fared badly in having their books and journals incorporated in the Public Library. As matters stand now it appears that there is nothing left for the medical societies of St. Louis than to take steps for securing libraries of their own where they will at least be enabled to read the most important medical journals as soon as they have arrived. The contract between the medical societies and the Public Library appears to be to all intents and purposes a dead letter. This is only a repetition of the incorporation of the books of the St. Louis Microscopical Society into the then Public School Library. The books of the Microscopical Society were also to be kept in a separate room and catalogued so that the members of the Society might have ready access to them at any time. Unless the Library Committee of the St. Louis Medical Society will look into this matter and place it before the Librarian of the Public Library for speedy correction, the access to the newest medical literature will be a practical impossibility for the members of the St. Louis medical profession and each medical society will be compelled as of yore to keep its own journals.

How much a resolution, recently passed by the St. Louis Medical Society, may have to do with the fact that all the journals of 1896 are not to be found in the shelves originally allotted to them, we do not know. But the disappearance of all the newer issues of the journals makes it appear as if that resolution had something to do with this state of affairs.

The resolution referred to requests the right of members of the Library to take home, upon presentation of their library tickets, any medical journal excepting its two last issues. If the present chaos in the files of the journals should be the consequence of said resolution we would urgently advise its reconsideration; unless, as another alternative, the library authorities be requested to place the last two issues where they are readily accessible to the members of the St. Louis medical profession.

Lecture on Roentgen's X Rays by Prof. C. O. Curtman.

Before a large audience consisting of the students and the alumni of the Missouri Medical College and invited guests Prof. C. O. Curtman delivered a lecture February 27, 8:00 p.m., on electric light in general and Roentgen's X rays in particular. The lecture was delivered in the large amphitheatre of the Missouri Medical College and was accompanied by actual demonstrations. The Crooke's tube employed was not supposed to bear a sufficiently strong current for the purpose of photography and the lecturer therefore exhibited on a screen some of the photographs taken in London, Yale, Philadelphia and the Columbia University.

Insanity and Murder.—An Important Decision of the Supreme Court.

The Supreme Court of the United States has recently handed down a decision which has an important bearing upon cases involving a question of the insanity of murderers. The court has reversed the decision of the inferior court and lays down the principle that the burden of proof of guilt rests in all criminal cases upon the prosecution, *i. e.*, the prosecuting attorney, in cases where the claim of insanity is advanced, must prove that the accused is not insane.

It would be of interest to learn how such a proof can ever be established, since, judging from former experiences, for instance in the Dreher and Duestrow trials, experts never seem to agree in matters of this nature. Duestrow and kindred criminals will probably hail the decision of the Supreme Court with much satisfaction.

Roentgen's Discovery.

The new year has brought us, writes a Berlin correspondent to the *Medical Record*, shortly before the end of the century, something that may truly be called *fin de siècle*. All Berlin, scientific and lay, is under the spell of the discovery of the Wurzburg professor of physics, Roentgen. The wonderful discovery has been demonstrated at every meeting of our two largest medical societies, the Berliner medicinische Gesellschaft and the Verein fuer Innere Medicin. Both physicians and public have conceived high hopes that some advantage to suffering humanity will accrue from it. How far these hopes are illusory the future only will show. The famous discoverer himself, who was recently summoned to give a demonstration in the presence of the Emperor, is somewhat pessimistic and believes that there is danger that its value as an aid to medical and surgical diagnosis may be greatly overestimated.

TRANSLATIONS.

BY EDGAR THOMPSON, M.D.

Traumatic Hematuria.—There are many urinary affections in which bloody urine is a common premonitory symptom. The hematuria from malignant and tuberculous growth resemble sometimes the hemorrhage from lacerations of part of the urinary tract (Dr. E. Vigneron, in *Revue Internationale*).

The author speaks particularly of surgical hematuria and says the study of the character of the urine is an important diagnostic aid.

Traumatic hematuria must be differentiated from the hematuria of infections, neoplasms and foreign bodies.

The cause of urinary infections can, as a rule, easily

be traced. It may have arisen from septic catheters, or from specific venereal infection.

The hemorrhages of neoplasms are very frequent and abundant and their repetition without apparent cause is an important differential point. After a certain time evidences of a tumor may be found on physical or endoscopic examination.

The hematuria from the presence of foreign bodies in the bladder is diagnosed by an examination with the sound and endoscope. There is a little difficulty when there has been a latent calculi which does not cause hemorrhage until induced to do so by a slight trauma or fatigue. This condition is perhaps the real one where hematuria is caused by an apparently trivial injury. It is necessary to determine the origin of the blood and the seat of the lesion if there is any. If the hemorrhage is from some point in the anterior urethra the diagnosis is easy for the blood will drain from the meatus at all times. This is not the case in a hemorrhage from any other part of the urinary tract. The author prefers the word "urethrorrhagia" for hemorrhage from the anterior urethra.

If a small amount of pure blood is forced out in front of the urine on micturition the lesion is in the posterior urethra just back of the cut off muscle. The blood may be coagulated, in which case large round clots will be washed out by the first urine. The last half of the urine will contain no blood. If the whole course of micturition is mixed with clots the blood probably escaped into the bladder, and was mingled with the urine. If long narrow clots are passed, showing that they were moulded in the ureters it can be concluded that the lesion is in the kidneys or ureters. If blood only appears at the end of micturition it hints at a lesion in the bladder; it may be a calculi or erosion. The bladder, after the urine is voided, contracts on the stone and causes it to lacerate the mucous membrane causing capillary oozing or the excessive contractions re-open and tear any slight fissures, etc. In both these conditions the last part of the urine will be tinged with blood.

The nature of the trauma and the external character of the injury furnish clues for a diagnosis. An injury to the perineum most often causes a rupture of the bulb, with urethrorrhagia. It may involve the membranous portion, and may, rarely, contuse the prostate or fracture the pelvis. In the two latter cases urination and catheterization will be difficult, or impossible. In the diagnosis of post urethral lesions the examination through the rectum is valuable.

The endoscope is a very important instrument of diagnostic precaution. If the origin of the blood is above the bladder the long clots, moulded by the ureters, will be recognized or the blood will be seen issuing from one or both ureters.

The gravity of the lesions have no definite relation to the amount of hemorrhage.

The treatment of hematuria is founded on general principles. A very frequent complication is the pres-

ence of large clots in the bladder. If the clots make micturition painful or difficult recourse must be had to the aspirating catheter.

Contusions of the posterior urethra generally heal spontaneously. If the hemorrhage is severe a large sound introduced and left in the urethra will apply pressure and check the flow.

The treatment of contusions and lacerations of the bladder varies. If the mucous membrane only is torn rest of the organ with evacuation of the blood will effect a cure. If all the layers of the bladder are torn an operation is necessary. If the laceration is intraperitoneal a laparotomy and suture of the bladder walls is indicated.

The kidneys have remarkable powers of recuperation, and the renal tissues cicatrized more readily, perhaps, than any other and most contusions and injuries of the kidneys are best treated on the expectant plan of rest, etc.

The Psychoses of Old Age.—The following conclusions are drawn in a review, in *La Revue Internationale*, of a thesis on the above subject by Dr. A. Ritt:

1. Many individuals become victims of certain psychoses when they attain a certain age, although there may have been no sign of mental troubles previously.

2. The psychoses most often observed are, in the order of frequency, melancholia in its various forms, especially simple and anxious melancholia; mental confusion; mania; moral insanity; systematic delirium.

3. The melancholia with anxiety is the one most clearly defined by the constant agitation, distraction, violent impulses, the refusal to eat on the pretext that they are forced to eat human flesh, or decomposed meat, etc. There is a tendency to obscenity, insomnia, etc. This form is the most easily cured.

4. The delirium with the idea of persecution is sometimes present and is aggravated by visual hallucinations.

5. The systematic delirium is the same as in adult age, in its cohesion, activity and persistency. This is probably due to a mental decay and it is a sort of a senile dementia.

6. A deliriant manifestation frequently observed in the aged is erotomania. In cases of simple mania, melancholia, and systematic delirium one often finds a superactivity of the erotic sense, which will be manifested in obscene words, gestures and acts.

7. The study of physical diseases and somatic symptoms is very important in all cases of psychoses of the aged. Circulatory troubles and cardiac and renal lesions are very frequent and have a casual relation. The author says that the frequency of mental confusion and obtuseness is due to auto intoxications (uremia?).

8. The cause of these psychoses have been laid to heredity, to the changes coincident to old age, etc.

9. The prognosis of most of the psychoses is fairly good.

MEDICAL & SOCIETIES

PROCEEDINGS OF THE ST. LOUIS MEDICAL SOCIETY.

W. H. FUCHS, M.D., EDITOR.

Stated meeting, Saturday evening, February 8, 1896; the President, W. H. MOORE, M.D., in the chair.

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DR. A. H. MEISENBACH presented the same patient, a little girl, whom he had exhibited before the Society on January 4, 1896, to show the result of

Skin Transplantation Without a Pedicle.

The operation, the result of which he showed to-night, was the same as that performed on the index finger at the first sitting. A quadrangular skin flap was taken from the side of the patient and united to the denuded surface occasioned by the exsection of the contracted cicatrix on the palmar surface of the three remaining fingers. The result has been equally as good as that following the first operation. The skin was united throughout in its new position, and the surface of the new flap was red, the papillæ showing as small red spots. Epidermization had not as yet occurred.

It was evident that motion would become perfectly re-established, although, of course, it was at present impaired on account of the long retention of the hand on a splint.

The operation was without unusual symptoms, except that a typical malarial attack developed shortly after its performance. This threatened to prove disastrous to the success of the operation, as the chill was very pronounced, the temperature high and the hand considerably swollen. The symptoms subsided very promptly under specific treatment.

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DR. ROBERT FUNKHOUSER presented a paper (see page 166) entitled,

Some Points on General Anesthetics.

DR. A. H. MEISENBACH considered individual preferences in the selection of general anesthetics largely determined by early experience and training. In his early experience in St. Louis, and in his observations in Germany, he found chloroform more generally used than ether. He had seen some very unfortunate results from the former in Germany, and some surgeons were beginning to use ether experimentally in cases of habitual drinkers and in patients in whom pathological conditions existed which contraindicated the use of chloroform. However, chloroform seems to have gained, rather than lost, prestige.

The early stages of the administration are doubtless of the greatest importance. Aside from pathological

conditions, the patient's nervous organization ought to receive careful consideration, for it is unquestionably true that patients have been literally sacred to death, and the first few whiffs of chloroform have had a lethal effect in many cases. The chloroform should not be crowded, especially in the beginning, and its administration should be regulated somewhat in accordance with the patient's nervous temperament. He should have confidence in the person administering the anesthetic, and for that reason it would be well for him to have become acquainted with the anesthetizer.

Whilst in this country the patient is made to assume the prone position, in Germany the semi-recumbent posture is often used. But instead of using an Eschmarch inhaler, an apparatus is employed whereby the nose and mouth are entirely covered by a mask provided with a valve, and the chloroform vapor, already mixed with air in proper proportion, is carried into the mask by rubber tubes. Speaker had seen this apparatus successfully used time and again; in fact, it was the only method employed on the continent for a time. He had also used it in cases of operations on the face, especially in removal of the upper jaw, where there was danger of blood trickling down the trachea. In these cases the vapor was admitted through the opening made in the trachea by a provisional tracheotomy.

The importance of a careful chemical and microscopical examination of the urine is becoming daily more apparent. It is not sufficient to determine the presence or absence of albumen, for we know that chloroform may be administered with comparative safety in some cases where a small quantity of albumen is found in the urine. This can not be said of cases where the quantity is considerable or where casts are found indicating a pathological process involving the tubules.

It has been speaker's custom to give morphine hypodermically before administering the anesthetic. This has proved very beneficial, especially in patients of nervous habit. The injection of whiskey during the administration of the anesthetic has proved of great value. The character of the respiration and heart's action is much improved, the patient rallies more readily and the tendency to nausea and other disagreeable after-effects is lessened.

The depressing effect produced upon many patients by modern surgical paraphernalia and assistants and operators in long white gowns should be very carefully guarded against, and for that reason it is advisable to administer the anesthetic in some place other than the operating room. This had been speaker's practice and he believes it to be the best.

The respiration, according to his experience, demands the closest attention as it is the first to indicate an impending lethal effect. The pulse oftentimes continues after respiration has ceased, and impending danger is indicated by cyanosis. Every precaution should be taken to avoid interfering with this function, and the tongue should be kept well forward by the anestheteur.

If the necessary precautions are taken and the anes-

theteur is skilled in this special field, chloroform is as safe an agent as any other. It is being more generally employed at present than heretofore, and the technique of its administration is better understood in consequence.

DR. L. H. LAIDLEY wished to correct an impression which might be made by Dr. Meisenbach's statement, that chloroform is more commonly used than ether in this country. According to a recent article by Dr. Gay, the use of ether as an anesthetic is almost universal in the New England States. In Boston the law holds a man responsible for a death from chloroform. In the public institutions of Philadelphia the use of ether is compulsory. In the New England and Middle States, ether is used by the great majority of physicians, simply because it is the safer anesthetic. If ether has a fatal effect it does not occur as rapidly as from chloroform, although if we could trace all the deaths which result from ether after the patient has left the table we would probably find the number equal to that of chloroform.

The administration of either anesthetic will make one apprehensive when dependent for the service upon someone of whose ability the operator has little or no knowledge. Lawson Tait places the administration in the hands of nurses, instructing them to desist when the patient snores. Speaker had been obliged to depend upon the same assistance, but always uses ether, as it is probably the safer agent. He uses it in all middle aged patients, employing chloroform in extreme youth and in the aged.

One of the methods of resuscitation not mentioned consists of rythmical traction made on the tongue, or a pushing forward of the hyoid bone. Although generally known it deserves emphasis.

DR. E. O. GREEN considered anesthesia the most important part of the preparation for an operation, it is as important as asepsis.

He objected to the practice, advocated by some of the speakers, of anesthetizing the patient in a place other than the operating room, as he had seen undesirable effects produced by carrying the patient and allowing him to rally partially after being under the influence. The assistants need not be present in their long gowns and operating paraphernalia might be so disposed as to be invisible. Confidence in the anestheteur is essential and may be established by assurances from the surgeon of his ability and conscientiousness.

In protecting the face and eyes care should be taken to include the whole exposed surface. Vaseline should be used liberally, and the cloth covering the eyes should be moistened so that it clings to the face and is not liable to be displaced.

An operator should be well prepared for all emergencies and should be held responsible by law if not equipped in case of an accident. The jaw should be kept well forward and upward, and 9 or 10 minutes allowed for establishing anesthesia. Crowding the chloroform is inexcusable. Gentle systematic rotation of the head has served speaker well in diverting the pa-

tient's mind from the chloroform, thereby hastening anesthesia without an increased quantity of the agent. We know that the sphincter ani is the last reflex to be lost, so that in case the ordinary means of resuscitation fail stretching of this muscle may be resorted to with benefit. Percussion over the heart, about 60 beats per minute, has been recommended by some writers. It seems to be as a stimulant to the heart's action and should be resorted to promptly.

The choice of an anesthetic depends largely upon early training and individual experience. The doctor has been in the habit of using chloroform, has had no accident with it and, therefore, prefers to use it.

DR. THOS. O. SUMMERS also regarded the choice of an anesthetic as dependent upon habit. In the Old London Hospital they never use anything but chloroform. In operations on the face or mouth, as in hare lip, for instance, where it is necessary to remove the chloroform inhaler frequently, the vapor may be carried into the respiratory tract through the tube connected with the chloroform bottle and inserted into the nostrils. It may also be administered per rectum.

DR. CUMMINGS said that ether is used more frequently than chloroform in London, the reason for this being that with chloroform the death is sudden and is due to cardiac paralysis, whilst if it occurs with ether respiration is affected first and the chances for resuscitation are more favorable. If a patient dies on the table from chloroform the surgeon must bear the brunt of the blame, whilst if it occur after he has been removed from the table, as it often does from ether, death is ascribed to the effects of the operation, and the blame is not so great.

DR. I. N. LOVE thought it had been correctly stated that the administration of the anesthetic is the most important part of an operation. This being so, it seems strange that, in large cities at least, the development of specialists in this branch has not occurred. At least a dozen such specialists ought to find constant employment in as large a city as St. Louis, and their fee should be in proportion to the risk assumed. The practice, indulged in at present, of relegating this part of the operation to the family physician, a medical student or to some neighboring doctor, with a mere "thank you," as a compensation, should be condemned and is a strong argument in favor of developing this field of specialism.

It is well known that ether is used exclusively in the New England States; it is as much as a surgeon's reputation is worth not to use it. In the Western and Southern States just the contrary obtains; chloroform is used almost exclusively. Whilst ether does not kill upon the table, there are remote dangers which may cause death within 24 or 48 hours, and probably more cases of this kind occur than are recorded. One of the strongest arguments in favor of the harmlessness of chloroform is its constant use in cases of labor without a single accident reported. Speaker had used it in every one of the cases of labor conducted by him during the

past fifteen years and he had never seen any ill effects. This fact seems, also, to emphasize the importance of fright as an element in fatal results from chloroform anesthesia. There can be no question that the mental impression, made by modern surgical paraphernalia and appliances, enters largely into the consideration of ill effects from anesthetics. When a woman is in labor her attention is directed to the process going on and to the pain in connection with it, and she grasp at the idea of an anesthetic as an element of relief, rather than as an element of danger. Fear for the anesthetic is, therefore, entirely eliminated.

In order to emphasize the importance of this point, speaker related an incident where a patient, who was about to undergo a severe operation, walked into the amphitheatre, in which a great number of students were congregated. He lay down upon the operating table and the operator was about to begin with the anesthetic, but before he had removed the stopper from the chloroform bottle it was found that the patient had died. This was a pure case of death from fright, and the chloroform would doubtless have been credited with the bad result if the anesthetic had been begun. So the speaker is entirely in accord with the idea of administering chloroform away from the operating room.

Chloroform is the only anesthetic which is permissible in the case of small children, and here, too, gentleness and mental encouragement constitute part of the operation.

The doctor was in favor of giving whiskey to eliminate the elements of fear as nearly as possible. He would give it to the stage where the patient cares but little what you do with him, or just enough to take the "edge" off the pain. This is not based upon the experience with one case, nor with a dozen, but on an experience of ten years. The first time he had seen it used was fifteen years ago, when Dr. Link, of Terre Haute, Ind., administered it to a large robust man, and demonstrated its effect in an amputation. No evidence of pain was manifest, and the patient made a rapid recovery without any untoward symptoms.

DR. A. R. KIEFFER said that it is not as necessary to carry the anesthetic to the extreme degree in the latter part of an operation as it is in the beginning. The danger from an anesthetic is primarily much greater in the beginning of an operation, and we can get along with a less profound degree of anesthesia in the latter stages, and in that way use less of the agent. Anesthetics should not be used in too large a quantity nor continued too long. The use of whiskey, as suggested by Dr. Love, is a valuable adjunct and is to be commended.

Chloroform should never be given unless ether is at hand. Cases have occurred where chloroform was very poorly borne and where it would have been necessary to have discontinued the anesthetic, but where ether immediately improved the condition of the patient.

Speaker did not consider the protection of the eyes with a towel, or of the face with vaseline, as essential. If the patient comes from under the influence with a

blister on his face, a drop of chloroform in his eye, or some of the fluid in his throat, that is a serious blunder of the anestheteur. The fluid should be given very slowly and added to the mask drop by drop.

The patient's stomach should be empty, and purgatives should have been administered before anesthesia is begun. Where bad results, or set-backs, occur it is usually because the necessary preparations has not been made, or the administration had been continued too long, or too much of the drug has been given.

Patients who have lost considerable blood are bad subjects for anesthetics. The drug must be administered with great caution, lest symptoms of collapse supervene.

DR. ROBERT FUNKHOUSER, in his early career as a medical student and practitioner, obtained some of his experience in the Charity Hospital of New York, and in the New York Hospital, and ether was the only anesthetic given at that time. Later on, however, when reports began to come in of complications and deaths 3, 4 and 5 days after an operation, and for which there was no apparent cause, the suspicion began to rest on ether, and it was finally concluded that some effects are produced by this anesthetic about which very little was known, and chloroform came into more general use. There can be no doubt about the bad effects of ether on patients with pathological states of the kidneys, especially in the chronic inflammatory stages. It is also improper to use it in persons with diseases of the respiratory tract, in very young or aged patients or in diabetics.

All the theoretical knowledge contained in the books will not fit a man for the administration of an anesthetic. It is not the theory, but the practice, which makes a successful surgeon, and a careful regard for minor points in technique is essential. The same holds good in the use of anesthetics. Carelessness is not to be tolerated under any circumstances, and the dropping of chloroform into the eye is unpardonable.

Doubtless, too much of the anesthetic is given in many cases, not only in the beginning of the administration, but in the course of the operation. Too much emphasis can not be placed upon this point.

Death from fright may take place, not only preceeding the operation where it is intended to administer chloroform, but immediately after the first whiff has been given. Whilst this is often due to a peculiar idiosyncrasy of the patient, many bad result occur from faulty preparatory treatment. How many surgeons are there who are equally skilled as operators, and how many of this number can give an anesthetic properly? Speaker does not care to give the anesthetic himself; he does not give it if he can help it; it is thankless job. But as a surgen he is very much interested in the technique of its administration, and considers the operator as much responsible for the anesthetic as is the anestheteur.

The doctor is not in favor of giving whiskey to all cases indiscriminately. It should not be done as a matter of routine, but may be of great benefit in anemic

patients where the general vitality is below par and the heart's action weak. Morphia, on the other hand, is often decidedly beneficial.

It must be regarded as criminal negligence, also, to give an anesthetic to a patient coming to the office for such minor operations as the opening of an abscess, removal of a gland or ablation of a tonsil. Cases have occurred where this has been done, the patient is allowed to walk from the office, probably on a shopping tour, and is often carried home.

We should always be on the alert for accidents from the anesthetic, and anticipate, rather than wait for, their development. Weakening of the pulse and shallow or irregular breathing are indications which should be promptly met. The head should not be in a flexed position with the chin resting on the sternum, but should be extended, the chin held well up and backward and the tongue pulled forward. Exercising of the muscles of respiration is not necessarily accompanied by entrance of air into the lungs, and it is often necessary to stimulate the function by Sylvester's or Nelaton's method, or by rapid percussion on the chest over the cardiac region.

In spite of all our precautions, accidents will occur, and, although administered with comparative safety at present, the time will come when general anesthesia will be replaced by Schleich's infiltration method of local anesthesia in many cases, although union by first attention might be interfered with by it.

ABSTRACTS

MEDICINE.

Edema without Albuminuria.—Dr. Tohirkaff calls attention to a new syndrome, characterized by great edema without appreciable organic disease. He has studied six cases between 1886 and 1894. The patients were all men of from 25 to 60 years of age, generally of a good constitution, though some of them slightly anemic. In the case presenting anemia the edema developed slowly over a period of three to four months; in the plethoric subjects it developed much more rapidly. The anemic cases strongly resembled the picture presented by cases of chronic nephritis. In the non-anemic there was a different picture, anasarca coming on rapidly in the space of a week or so, the peritoneal cavity filling with fluid, and in the course of the next two weeks the pleural and pericardial cavities also showing signs of exudate. The face, trunk and extremities all became swollen at the same time. At times only the upper extremities were edematous, but usually the lower were most affected. In some cases the edema affected mostly the neck, face, chest, and upper arms. Certain patients lost the hair from the

eyebrows, beard, mustache, and pubes at the time that the edema appeared; the hair of the head also became very thin and of a softer texture, and changed its color somewhat. The cases all ended in recovery. Most careful examinations showed that there was no nephritis in these cases; the urine was repeatedly examined, and albumin was never present, showing that they were not cases of chronic nephritis with temporary absence of albumin; there were never, moreover, any signs of uremia or kindred symptoms. The blood was carefully examined in all cases, and no changes were found in either the number of corpuscles or the percentage of hemoglobin; a large percentage of reduced hemoglobin was, however, always present. The heart was negative in in all cases, and there were no frank signs of hepatic cirrhosis. The majority of the patients either showed signs of or gave a history of preceeding lues. From the increase in the reduced hemoglobin, and the fact that there were no signs of deficient oxygenation in the lungs or venous stasis, Tohirkaff concludes that we must be dealing with a stasis in the venules and capillaries, probably of vasomotor origin. As the result of his observations he formulates the following conclusions:

1. There exists a form of disease but little known, characterized by general edema, with effusion into the serous cavities, without albuminuria; at the same time the heart, lungs, liver, and other organs show no change capable of causing edema from blood stasis.

2. These edemas are of a vasomotor origin and can be called "general vasomotor edemas."

3. They are characterized by, and often accompanied by, dilatation of the right heart and moderate arteriosclerosis.

4. They are always accompanied by changes in the blood, i. e., the hemoglobin is considerably reduced. Beyond this one occasionally sees tropic trouble and pronounced paralysis of the veins of the skin.

5. In most cases these edemas are of syphilitic origin, and disappear under treatment by mercury and the iodides. It is possible that the edema without albuminuria, from which the African soldiers suffer, does not always occur from cold or the formation of ptomaines from indigestion.—*American Journal of the Medical Sciences; Record.*

Myrrh in the Treatment of Diphtheria.—Miloslawski (*Medicinskoe Obosrenije*, 1895, No. 15; *Deutsche Medizinische Zeitung*, January 27, 1896; *New York Med. Jour.*) reports extraordinarily favorable results from the treatment of diphtheria with myrrh. From December, 1894, to February 15, 1895, in a village of the government of Saratow, he says, forty-two cases of diphtheria were treated with tincture of myrrh; twelve of them were severe, twenty were of medium severity, and ten were light. The patients' ages ranged from one to twenty three years, but the majority were between ten and fifteen years old. Three died; one of them was a year old and two of them

were three years old. All the patients were under the physician's direct observation. The treatment was carried out in the following manner: The preparation given internally consisted of

Tincture of myrrh	-	-	-	4 parts;
Glycerin	-	-	-	8 "
Distilled water	-	-	-	200 "

A teaspoonful of this mixture was given every hour to children under two years old, a dessertspoonful every hour to children from three to ten years old, and a tablespoonful every two hours to adults. In the case of children with whom the procedure was practicable, the pharynx was painted with tincture of myrrh four or five times, in addition; in that of adults gargling with the tincture was employed. Under this treatment the diphtheritic membrane began to be detached as early as on the second or third day, the temperature fell, and the general condition speedily improved. The average duration of the treatment was from six to eight days.

As regards the theory of the action of myrrh in diphtheria, it is assumed by some that it destroys the toxins and ptomaines which form in the affected parts and thence gain entrance to the blood, but the author calls to mind a statement of Binz's to the effect that seventy drops of tincture of myrrh would increase the number of the white blood-corpuscles fourfold, and so fortify the organism in its contest with the poison.

Urotropin.—The favorable reports that have come to my notice regarding urotropin lead me to think that some additional facts concerning it may not be amiss, says J. A. Flexner, M.D., in the *American Practitioner and News*, of December 28, 1895. Urotropin is a derivative of formic aldehyde, and not a coal-tar product. The well known antiseptic and preservative power of formic aldehyde in solution led Nicolaier of Gottingen to use the solution of formic aldehyde, containing 40 per cent of the gas, and known as formalin, as a means of preserving specimens of urine from decomposition pending examination. He noticed that neither uric acid nor the amorphous urates were deposited, though the same specimens not treated with formalin deposited either or both, as the case might be. Even when already precipitated, these substances underwent solution when formic aldehyde was added to the specimen. Urines that readily deposited large amounts of uric acid when acidulated with a mineral acid, did not do so when a sufficient amount of the preservative was added.

The results of these investigations prove very conclusively the great uric acid solvent power of formalin. The reputation of the lithium salts as uric acid solvents is caused by the common error of applying the results of laboratory experiments to practical therapeutics. The fact that lithium forms an insoluble phosphate, and that the blood and urine contain considerable amounts of soluble phosphates, show that lithium salts, given by the mouth, must form insoluble phosphates of lithium long before they can combine with the uric acid. In this respect it is no exception to the chemical law that

when the ingredients for the formation of an insoluble body are present in a mixture, this body will always be formed. Medical opinion has for a long time attributed the success attending the use of the lithiated waters to the water, and not to the lithium that they contain. A similar error obtains in the case of some more recently introduced substances, lycoctol, lysidin, etc. They do not, in the urine, form the very soluble uric acid combinations that they do outside the body. Formic aldehyde being too irritating to be taken internally, Fico-laier then determined to try its amine combination as a substitute. This substance, hexamethylenetetranin or urotropin, is non-poisonous even in considerable quantities, is unirritating, very soluble in water, and is as good a uric acid solvent as formic aldehyde itself.

The name urotropin was given to it on account of the changes which its administration brought about in the urine. Alkaline and putrid urines, containing mucous in excess, pus and pus organisms, uric acid or amorphous urates, were rapidly restored to a normal appearance and an acid reaction. The urine was sterilized, and increased in quantity, and calculi and deposits were dissolved. Hence urotropin is a most valuable resource in all suppurations of the urinary tract, and in all gouty and rheumatic conditions where an active eliminant of uric acid and its salts is indicated. A further valuable property of urotropin is its faculty of combining readily with salicylic acid and forming a soluble combination. A solution containing from ten to fifteen grains each of urotropin and salicylic acid to the fluid ounce of water or other suitable vehicle has the further advantage over the salicylates alone in that its taste is not disagreeable. It appears to be far less irritant to the gastric mucous membrane than solutions of salicylic acid usually are, and the combination promises to have a wide range of therapeutic usefulness.

SURGERY.

The Surgical Treatment of Malignant Disease of the Breast.—In an article on this subject, published in *The Lancet* for December 21st, Dr. Robert Sanderson, of the Women's Hospital, Brighton, says that it has become an acknowledged principle of the treatment not only that should the whole affected mamma be freely and thoroughly excised, but that in addition a clean sweep should be made of its lymphatic connections. It is unnecessary, he says, to enumerate the pathological considerations which have led to the adoption of this principle, but it is very necessary to examine the question as to how far the principle has been applied to the practice now employed.

First, as regards anatomy. It is a matter of fact that efferent lymphatic vessels run from the axillary glands through the apex of the axilla into the posterior triangle, and after forming connections with the glands therein finally enter the thoracic duct on the left side and the

right thoracic duct on the right side. Moreover, superficial lymphatics from the skin covering the mamma track up over the clavicle to these same glands in the posterior triangle.

It is laid down, says the author, that in primary malignant disease of the breast the axilla should be cleared out (after removal of the breast), whether the glands are visibly infected or not. Why? Because the fact that they are not affected macroscopically is no proof that they are not affected microscopically. And yet, in the face of the anatomical facts quoted above, it is not the usual custom or practice to go further. If it is wrong, he says, to assume that the axilla is free from disease because it shows no sign to the naked eye or to the finger, it is equally wrong to assume the posterior triangle has escaped. If it is right and peremptory to clear the axilla, it is also right and peremptory to clear the posterior triangle. Still more is it inconceivable how the triangle can be left untouched if the axillary are found to be clearly affected at the time of operation.

It may possibly be objected that it is not feasible or is difficult to clear the posterior triangle. To this it can be replied that by a flap operation done a week or ten days after the primary operation a clean dissection can be made of the whole posterior triangle, that it is not difficult, and that it is quite feasible. A flap formed by a long incision down the sterno-mastoid muscle meeting an incision along the clavicle is detached as far back as the anterior border of the trapezius; this exposes the triangle, and the contents can be systematically removed with a little care and patience. By such means the acknowledged principle would be carried out as far as is possible, and if the principle is right it seems incumbent upon the surgeon to strive to apply it thoroughly in practice and not to be content with stopping halfway. It is not suggested that this is the best method of operating, and inasmuch as two cases only have been so treated, and those comparatively recently, no results of value can be produced. It is hoped, however, says Dr. Sanderson, that this article will serve to ventilate the question, as well as to point out that at present the practice appears to directly clash with the acknowledged principle.

In an editorial in the same journal the writer says, in regard to the question raised as to whether it is right to stop the clearing-out process at the axilla, that Dr. Sanderson very rightly pleads that we must also consider the posterior triangle. It is important to remember that lymphatic glands may be affected by carcinoma either directly or indirectly. The glands which receive lymph directly from the infected area enlarge first, but it is only at a later period that other glands, through which the lymph has afterward to pass, become involved. In carcinoma of the breast the lymphatic glands which are most frequently affected are those in the axilla, especially the pectoral set lying under the border of the pectorals minor. Later in the case glands higher up, situated in the posterior triangle, become also involved.

It is extremely rare, says the writer, for the glands above the clavicle to be affected directly. In every case of carcinoma of the breast, in order to reduce the chance of recurrence to a minimum, the axilla should be cleared, even if no enlarged glands can be felt. But if there is no evident involvement of the axillary glands, there is practically no chance that the glands in the posterior triangle are affected; so that it is undesirable to subject the patient to the increased risk of this extension of the operation. But if the axillary glands are markedly involved there is very great probability that the glands above the clavicle are also affected; such a case there is no reasonable chance of cure unless these glands also are removed. The superficial glands lying on the cervical fascia can be readily taken away, but it is no easy matter to remove the deeper glands which lie around the subclavian vessels and under cover of the clavicle, and the deeper glands are those most likely to be affected. Yet, he says, it is undoubtedly advisable to attempt their removal in many cases where they are now left untouched. But the axillary and the supraclavicular glands are not the only lymphatic glands connected with the breast; the lymphatic of the inner segment of the breast run to the sternal glands in the anterior mediastinum, and it is greatly owing to the fact that carcinoma of the breast usually affects the upper and outer segment of the breast that these intrathoracic glands are so rarely involved.—*New York Med. Jour.*

OBSTETRICS AND GYNECOLOGY.

Albuminuria During Pregnancy.—In a paper on this subject Dr. Harry G. Utley (*American Journal of Obstetrics*) says that albuminuria is simply an indicative symptom. Its meaning and import must be terminated by the gravity of any coincident pathological renal condition (as shown by the urinary examination) and by the presence and degree of severity of the general manifestations of kidney disease. The treatment, therefore, is to be directed to the condition or set of conditions with which the albuminuria is connected or with which it is dependent, and its permanent disappearance will signify that the harmful processes or conditions with which it is related have become inoperative. Most naturally the therapeutic indications are suggested almost altogether by the condition of the kidney, the amount of elimination it can probably do, and the probable amount of noxious substances in the body to be eliminated, which latter condition can be made evident only the signs of uremic intoxication. In every instance it is wise to curtail the further production of toxin by restricting the amount of nitrogenized food. An exclusive diet of milk seems to fulfil the indications admirably, serving at the same time as a mild diuretic. The author has frequently seen albumin disappear al-

together by the use of this measure alone. This result would seem to add some force to the proposition that albuminuria is often due to the presence and influence of these toxic materials. Excellent results may be gained by employing a mixed diet of foods poor in nitrogen, viz.: bread, butter, fruits preserved or fresh, vegetables in limited quantities, etc., of which only a sufficient quantity to sustain nutrition should be taken, for any excess has to be eliminated by an already over-worked kidney. This measure greatly relieves the kidney and puts it in position to more effectually and quickly recover. Further, if circumstances demand or or even justify it, the elimination of the harmful materials may be both hastened and accomplished by the use of the other emunctorial channels—the bowels and the skin. The indications for using one or both of these, as well as the degree to which their functions should be stimulated, must be suggested by the merits of each individual case. They should in all cases be kept active. The bowels may be “appealed to” with very satisfactory results by the frequent administration of the compound jalap power, say in drachm doses every other morning, or any of the hydragogue cathartics, which will be found especially useful. As to the skin, its action may be encouraged by resorting to the hot bath, the steam bath, the hot-air bath, or the hot pack. The employment of the medicinal diaphoretics, especially pilocarpine, is not indicated except as a last resort, and even the use of this agent should be extremely guarded, for the reason that pulmonary edema is very often the result and the burden of cardiac depression is put upon the patient, possibly already struggling for life. It is probably neither wise nor necessary to unduly stimulate the skin function unless signs of beginning uremia are evident, and even then their gravity should dictate both the method and the extent and frequency of its employment. The wisdom of the use of the stimulating diuretics to aid elimination by the kidneys is much to be questioned, at least in those cases not showing symptoms of uremic intoxication, for it seems grossly unjust to goad on an already crippled organ when the same or a better result may be gained by the timely and judicious use of the eliminative powers of the bowels and skin. The high blood pressure incident to pregnancy can not be overcome until delivery is accomplished; but it is not proposed to refer in this article to the indications for the inducement of premature delivery. The above principles of treatment, in addition to the fulfilment of any symptomatic indications that may arise, if prudently employed will bring much relief to the kidney laboring under untoward circumstances, and yield grateful and lasting satisfaction to the conscientious “man of medicine” in whose hands the destiny of so many innocent lives reposes.—*Medical Record.*

Prof. Bruner, Director of the Anatomical Institute at Rostock, is dead.

NOTES AND ITEMS

Bullet Located by X Rays.—Prof. Pupin, of Columbia College, and Dr. Carl Beck, of St. Mark's Hospital, extracted a bullet from the body of Pavo Morengo, the Wall Street lawyer. The bullet was lodged in his body by the accidental explosion of a gun, but it could not be located until photographed, when it was found imbedded in a bone.

Degeneration.—Dr. D. G. Brinton, says the *Medical Record*, recently read a paper before the anthropological section of the Academy of Natural Sciences at Philadelphia, in which he endeavored to show that the modern American woman is less capable of child bearing than the women of the less civilized races, and that anatomical and physiological changes of a degenerative character were at the basis of this.

Prizes for Diligence.—The late Dr. Duesterhoff, of Berlin, Germany, left in his will the sum of \$25,000, as a capital sum, the interest of which is to be used as an encouragement to diligence on the part of the medical students of the university. The half-yearly interest is to be paid as a prize to each of the two students, who, at periods six months apart, is approved as having been the most diligent student in his semester.

A Medico-Legal Note.—Dr. A. Walter Sutter, of Herkimer, in a brief communication with this title, to the Medical Society of the State of New York, showed that recent experiments with bullets infected with the anthrax bacillus proved that the heat produced by the friction did not, as might have been reasonably expected, sterilize the projectile, and hence this opened up an additional source of wound infection.

Guaiacol in Tuberculosis.—In Dr. A. Jacobi's new work on the "Therapeutics of Infancy and Childhood" he says: "No one treatment of all forms of tuberculosis ever satisfied me to the same degree as has that of guaiacol. If the taste be objectionable, the carbonate of guaiacol, an almost tasteless powder, may be substituted in three or four daily doses of one to three or four grains each. Both of these preparations, particularly the latter (guaiacol carbonate), may be combined with other drugs according to indications."

Histological Alterations of the Nervous Centers Produced by Electrical Shock.—Magini, of Rome, experimented upon dogs, cats, pigeons, white mice and rabbits, employing the potential electrical apparatus of Winsurth. After examining the brain cord and peripheral nerve carefully he arrived at the following conclusions:

1. That death by electrical shock, where there is no

external or appreciable internal lesion, is produced by a profound alteration taking place in the ganglion cells of the cerebro spinal system.

2. That such ganglion cells show great changes in size, being shriveled and atrophied, deprived of nucleus and nucleolus, and

3. That the electrical shock, oft repeated, favors diapedesis.—*The Indian Lancet*.

Fire at the Laboratory of the Royal College of Physicians of Edinburgh.—Fire broke out in one of the rooms of the Laboratory of the Edinburgh Royal College of Physicians on the night of January 31, and resulted in disastrous consequences. The apparatus and specimens in one room were entirely destroyed by fire, and as these specimens had been brought together after the labor of years, the loss is irreparable. Several other rooms and their contents, including the chemical room, were seriously damaged by smoke and water. Had the fire not broken out in a room on the top flat and at an outside wall the results might have been vastly more serious. As it is, much has been destroyed that can never be replaced even had insurances existed to the full. The work of the laboratory has been greatly disorganized, and some considerable time must elapse before the new buildings between Forrest Road and Bristo Street are ready for occupation.—*Brit. Med. Jour.*

American Medical Association.—The work of the Section on Neurology and Medical Jurisprudence at the coming meeting of the American Medical Association at Atlanta, promises to be of unusual interest. The desire has been quite generally expressed to have discussions upon the following topics:

The Etiology of Insanity.

Expert Medical Testimony in Disputed Mental Cases.

Medical Aspects of Crime.

It is believed that these topics have a special medical interest at this time, and papers dealing with any phase of these subjects will be very welcome. An urgent invitation is extended to all members, whether they are expecting to be in attendance or not, to present papers and records of cases that have a bearing upon the topics mentioned, or upon any other Neurological or Medico-Legal subject.

Any persons who expect to contribute papers or reports to this section will greatly facilitate the business of the Section by writing at once to the Chairman,

T. D. CROTHERS, M.D., Hartford, Conn.

or to the Secretary,

W. J. HERDMAN, M.D., Ann Arbor, Mich.

Not Attendance of Physician.—A mere calling at a doctor's office for medicine to relieve a temporary indisposition, not of a serious nature, or his calling at a person's home for the same purpose, the Supreme Court of Michigan holds, in *Plumb vs. Penn. Mut. Life Ins. Co.*, decided December 30, 1895, can not be consid-

ered an attendance within the meaning of a question in an application for life insurance (*Jour. Amer. Med. Ass'n.*). To constitute an attendance, it must be for some disease or ailment of importance, and not for any indisposition for a day, or so trivial in its nature, such as all persons are liable to, and yet are considered to be in sound health generally. "Sound health," as used in the same connection, it is held, means a state of health free from any disease or ailment that affects the general soundness or healthfulness of the system seriously, and not a mere indisposition, that does not tend to weaken or undermine the constitution of the insured. Having had syphilis at the time of the application, constitutionally or otherwise, and denying it, or representing oneself to be of sound bodily health, will constitute a breach of warranty. Prescriptions appearing to be in a certain physician's handwriting are not admissible in evidence to prove that he treated a person for a certain disease so long as the druggist is unable to state that such a person brought them to his drug-store to be filled.

The Sanitary Management of Floors and Floor Coverings.—To those who know the true inwardness of things, the sight of a housemaid brushing a dusty carpet is suggestive of many evils. The death of Pasteur has reminded the world of what is constantly present in the thoughts of medical men, namely, that while micro-organisms are the great producers of disease, dust is the great carrier of micro organisms. Now that we know these things, now that we understand that in the quiet hours of night the germ-laden dust settles down upon the floor, it is distressing to find how little our knowledge is put to practical use, and to see old customs still unchanged, old habits which we know to be destructive carried on, and to find the housemaid on her knees, with her brush and dustpan stirring up dust to the detriment of everyone, and breathing germ-laden particles to her own destruction. It needs but a small amount of common sense to see that if carpets must continue, a thing greatly to be deprecated, they should be rubbed with a damp cloth rather than brushed, and that if, in deference to prejudice, they must be brushed, this could be done by a covered American sweeper with plenty of damp tea leaves. Of all ways of removing dirt from a carpet the worst is by the use of the ordinary short brush, which involves the housemaid's kneeling down in the midst of the dust which she so needlessly creates, and drawing it into her lungs with every breath. For ordinary household use something like linoleum, something which can be washed with a wet cloth every morning, would seem to be the best covering for floors; but if carpets must be, and if it is impossible to teach the present generation the evils of seeking present comfort at the expense of future risks, at least let us remember that carpets may be washed even where they lie; that, till the day of washing comes, a closed sweeper is better than a brush, and that the worst form of brush is one with a short handle.—*Brit. Med. Jour.*

PUBLISHER'S DEPARTMENT.

DR. JNO. H. MCINTYRE, whose card appears in the REVIEW, is limiting his practice to surgical and special diseases of women, and will visit any distance for consultation or operation. The Doctor is an active worker in medical societies and promises to read some interesting papers on his special line of work.

ACCURATE ADMINISTRATION OF LITHIA.—Wm. R. Warner & Co.'s original Lithia Water Tablets (3 and 5 grains) admit of an accurate dosage of Lithia not to be obtained in any natural Lithia Water.

These tablets are securely packed so as to maintain their permanency, in consequence of which, when a Lithia Water Tablet is placed in a glass of water it quickly dissolves, effervescing in so lively a manner as to excite the interest of the patient to such a degree, that the unpleasant thought that he is about to take a medicine, does not arise. Now that Lithia has become a valuable remedy for Rheumatism, Lithemia, Gout, Gravel, Bright's Disease, etc., these tablets are without doubt the most convenient method to administer it, as enough Lithia Water Tablets may be carried in the pocket to make 2½ gallons Lithia Water of definite strength.

WAR DEPARTMENT, Surgeon-General's Office, }
WASHINGTON, D. C., January 8, 1890. }

"This is to certify that the exact Antiseptic strength of Tyree's Pulv. Antiseptic Comp. is one part of the powder to fifty of water, (1.50). A heaping teaspoonful (90 grs.) to one pint of water, (16 oz.). In determining the Antiseptic qualities of this Compound, the following method was employed: Test tubes containing peptonized beef broth were charged with the powder, varying from one part in ten to one part in two hundred. The solutions were then inoculated with the Anthrax Bacillus, and with the Staphylococci of Pus, and the tubes placed in the incubator for 48 hours at a temperature of 39° C. On removing the tubes from the incubator, it was found that in the solutions of one in ten to one in fifty there was no development of bacteria, while in all the tubes above, one in fifty, the bacteria had developed."

W. M. GRAY, M.D.,
Microscopist to Army Medical Museum.

CAMPHO-PHENIQUE POWDER IN LEUCORRHEA.—"For over four years I have been constantly using your Campho-Phenique as a dressing in all my surgical cases and not in one instance have I been disappointed. I am delighted not only with its antiseptic action but also with the local anesthetic action it produces. About a month ago one of your representatives left a sample of your Campho-Phenique Powder with me and I have used same in treating four cases of Vaginal Leucorrhoea all of which were of months' duration. I applied the powder to the tampons (cotton) after anointing same with vaseline. After each application the discharge lessened remarkably, besides the pain and inflammation subduing almost entirely after first treatment. In two cases I made four applications; in the other two, six applications when all the discharge disappeared. I was so surprised and pleased with the actions of your powder, that I felt that I would be doing you an injustice not to write and inform you of my favorable results. I do not know if I am the first to use your powder in tampons, and if future results as favorable follow, I shall surely use it exclusively in treating Leucorrhoeal troubles. If you will forward me another bottle of your powder I will further test its efficiency in gynecology and report."

F. C. SCHOLER, M.D., Ph.D., Chicago, Ill.

MEDICAL REVIEW.

A WEEKLY JOURNAL OF MEDICINE AND SURGERY.

VOL. XXXIII.

ST. LOUIS, MARCH 14, 1896.

NO. 11.

ORIGINAL ARTICLES

A Case of Insanity Feigning.—Some Remarks on Medical Expert Testimony.

BY EDWARD C. RUNGE, M.D.,

Superintendent, St. Louis Insane Asylum, St. Louis Mo.

Read (by invitation) at the meeting of the City Hospital Medical Society, March 5, 1886.

Jessen,¹ the noted alienist, made the following rather surprising statement: "Feigning of insanity is never resorted to by a person possessed of a perfectly sound mind." Heller² compresses his criticism of such a point of view into the few words: "How comforting it would prove to the criminal gentry, if all medico-legal experts would share in this view." Von Kraft-Ebing³ says: "On account of the very natural horror with which insane and insane asylums inspire the general public, only very powerful motives would drive a mentally sound person to simulation of insanity." To any one who has given any thought to the subject the latter statement will certainly appeal as coming much nearer the truth than Jessen's sweeping assertion. The possibilities for simulation are to be found as is well known, even among the members of lower animal life. Let us but think of some spiders, and other insects, that will feign death either for purpose of prey or protection, and of the opossum which will masterfully play dead when facing the howling pack of hounds. As to man, we all know the boy who feigns an attack of colic to escape the narrow school room, and the girl with the headache, who prefers the matinee to a discourse on ancient history. Our entire social life is teeming with little incidents of feigning; we frequently see pleasure, horror, and other emotions feigned just for the sake of appearing in ac-

cord and harmony with the surroundings; the conventional white lie is as much matter of conduct as of speech. Railroad and other accidents that furnish a handle to a damage suit are a fruitful source for pretending all sorts of conditions. Malingering is of such a wide spread occurrence in European countries having general compulsory military service, that there exists quite an independent literature on the subject. Heller⁴ enumerates the following conditions feigned by the recruits: unilateral and bilateral blindness, strabismus, deafness, ulcers, neuralgia, joint disease, paralysis, aphonia, visceral disease, incontinence of urine, epilepsy. A splendid example of feigning urinary incontinence is quoted by a French authority, according to whom, a soldier to escape service simulated this condition for a whole year though kicked, cuffed and beaten by his comrades. Epilepsy is simulated not infrequently by the light fingered tribe, one of its members having a fit on the open street, while his partner picks at leisure the pockets of the sympathizing crowd around him. This has been done in several well authenticated instances. From what has been said we may safely conclude that there is nothing incompatible with the normal human being, in simulating a condition not actually existing, hence we may infer that under certain conditions the same human being may feign a derangement of the higher mental faculty, *i. e.*, feign insanity. With very few exceptions it is the criminal who will take refuge in this course, either to escape punishment severer than the incarceration in a hospital for the insane, or to get to the latter with the hope of easy escape. Before giving a detailed description of the case under consideration, I might be allowed to give you a short sketch of a case of clever insanity feigning, as reported by Casper:⁵

"G—, aged 29, habitual criminal, thief, developed symptoms of alcoholic insanity; he was restless, talking to himself, spoke of animals creeping on the wall, exhibited the devil caught in a glass; very much excited and restless at night; cried a great deal. When placed in the Charite he showed for several months, profound mental depression; would lean motionless against a door-post, not utter a word but gaze into space. Nothing broke the complete apathy. He escaped and while outside did not show a sign of insanity. As soon as

¹Jessen. *Allgemeine Zeitschrift f. Psychiatrie*, xvi, H. 1. v. Kraft-Ebing).

²Heller. *Simulationen und ihre Behandlung*. 1890.

³v. Kraft-Ebing. *Lehrbuch der gerichtlichen Psychopathologie*. 1892.

⁴Loc. cit.

⁵Casper. *Handbuch der gerichtlichen Medicin*. Bd. 1. (Heller).

caught and committed to jail, he at once turned insane again. He would walk to and fro, with a frown and fixed gaze; to questions would say nothing except: "Ja wohl,—alles das Meinige genommen, ja wohl." ("Yes, yes, all that was mine taken away, yes, yes"). In this condition he remained for weeks; his fellow prisoners stated that he at no time appeared different. At night he was quiet, all functions were performed normally. The attempt to unmask him while arousing him from sleep, failed for he would glare at the night guard, and without a word turn around and go to sleep again. Suspicion of feigning was strong, and he was put on the so called hunger treatment, i. e., his daily rations were gradually reduced to a minimum. This went on for ten days; on the morning of the tenth day, he ripped out an oath and called for his breakfast, and never afterward showed the slightest sign of insanity. It was learned subsequently, that this man had faithfully copied a case of genuine insanity which Casper had opportunity to observe." I am not in a position to present to you a case of such interest, for D—'s case is one of great crudeness and phenomenal clumsiness. For the evidence of his mental derangement, I must draw largely on other witnesses, for I never saw him suffering with the same except during the court-proceedings while facing the judge and jury. Here is a brief sketch of the case, drawn mainly with the help of the records of the City Hospital and of the Asylum, and of my senior assistant's, Dr. Louis J. Oatman, and my own observation.

On January 29, 1894, D— was brought to the City Hospital, suffering from gunshot wounds of the head. When arrested he admitted having killed the woman who was found dead at the house of her relatives. He gave jealousy as the cause of the murder. Here follows a true copy of the clinical history as appearing on file of the City Hospital: "D—, aged 26, native of St. Louis, single, clerk by occupation. Family history very good as far as he knows or can be ascertained. He had several of the infantile diseases; had variola, remittent and typhoid fever; has been healthy for the past eight years, before that delicate and sickly. About three hours before entering the Hospital, patient received two gunshot wounds and two lacerated wounds of the hand. Upon examination there were found four bullet wounds. The upper entering about one and a half inches above the right meatus auditorius, on a line with the external angular process just above the suture, and entered the parietal bone fracturing the inner and outer table of the skull. Part of the ball remained imbedded in the bone, the balance glancing off and emerging from the head about two inches posterior to entrance and one-half inch below. The lower wounds were in a line between the occipital protuberance on the right ear immediately over the lambdoid suture. The bullet evidently entered the opening about an inch and a half posterior to the ear, and striking the bone glanced back and emerged about one and a half inch from entrance. No fracture. Patient was shaved over entire head and an incision was made connecting the two upper wounds.

Hemorrhage controlled and entire depression chiseled away, consisting of bone, lead and powder. Wound thoroughly cleansed and closed except for a piece of drainage gauze. Lower wounds were connected by an incision, the hemorrhage controlled and examined very carefully, as there was no evidence of depressed bone the wound was closed. No anesthetic was given and patient complained very little during the operation. Patient is not very well nourished. The skin is rather hot and dry; tongue red, moist, and coated, appetite generally good, bowels regular; pulse 88 per min., good volume and tension; resp. 24, temperature 102.4. Habits moderately alcoholic; smokes cigarettes to excess. Hygienic surroundings good. Urinalysis: yellowish red color, acid reaction, sp. gr. 1025, no alb., no sugar.

"February 16. Lower wound opened again four days ago, discharged some pus to-day. Upon examination a dark-colored foreign body was noticed and upon removal it was found to be a flattened 44 cal. bullet.

"March 1. The unhealthy granulations were removed, an effort was made to bring the edges together, with no success. The wound packed with iodoform gauze, and antiseptically dressed.

"April 1. Patient's wound is closing, and patient is transferred to jail."

There is not a word to be found in this history, alluding to the patient's mental condition, which certainly would have been done if anything of a striking nature had transpired. I will add that he refused to talk for the first twenty-four hours after his admission to the hospital, but he stated later that he wanted to get over the excitement before uttering a word, and in corroboration he quoted several remarks actually made at the operating table and the bed-side. After that, he grew more sociable; he then claimed that the woman had shot him first and then herself, drawing an exact diagram of the room in which the incident occurred and of the relative position of himself and the woman, pointing also to the place on the dresser where he alleged the revolver rested. He related some of his travels in foreign lands while in the Navy, which were taken by his listeners to be offsprings of his imagination. He never mentioned having ever suffered with any convulsive attacks. Having gained the confidence of his keepers, he made his escape from the Hospital but was caught at the gate. After his transfer to jail—how soon after I can not tell—he began to develop symptoms of insanity. He refused to wash, to be shaved, to have his clothing changed. From one of the medical witnesses, I learned that D., reeking with dirt, with his hair standing on ends, and his reddish shaggy beard, a picture of the wild man of Borneo, would lie for hours on the floor of his cell, with fixed gaze, and at times almost in a cataleptic state, his muscles rigidly contracted. His sanity was questioned, inquired into by a jury, and being found of unsound mind he was transferred to the Insane Asylum, on June 30, 1894. Dr. Oatman, who entered upon the duties of an assistant physician, on the very next day, was met by D. in the

hall with a cheerful: "Hello, doc, where have you been?" He admitted having worked "the insanity dodge" which got him off successfully, and on another occasion he stated that "they wouldn't hang a man who has been at the 'bughouse.'" He did not admit having shot the woman and himself. His health was good, all organic functions were performed normally; he was a sound sleeper. At times he complained of a slight headache. On July 19, 1894, he and two other inmates contrived to escape from the Asylum by filing through one of the iron bars, and with the help of a rope made from sheets and blankets. A fourth room mate whose mental state renders him a perfectly reliable witness, stated that D. was covering the retreat of his escaping mates at the door with the iron bar uplifted, ready to crush the skull of the night-watch should he have appeared prematurely on the scene. They were all caught on the next day. D. was found in a hay-loft. On September 17, 1894, D. was sent back to jail as "not insane." Hearing that he had suffered a relapse into the condition manifested during his first stay in jail, Dr. Oatman paid him two visits at that place. At the first visit he found him dressed in a shirt and pants stiff with dirt, unkempt, unshaven as before. He showed signs of recognition, but would not speak at first. Finally he yielded to some encouraging remarks and talked about the Asylum and its people. At the second visit, he was, if possible, dirtier than ever, seemed not to recognize the doctor, threatened to throw a cup of water at the latter, mumbled in an idiotic way but would not talk. While in jail he appeared to be demented, was dirty, careless, but had no delusions and was not violent and destructive. The authorities evidently impressed with this conduct concluded to re-commit him to the Asylum, which was done on January 30, 1895. He had to be dragged by main force into the Asylum, and while the police officers were present he acted with a great deal of violence. After they had retired, and when threats of lock-chain and restraints were made, D. arose from the floor, walked up the steps, and in about one hour—after soap, water, scrubbing brush, razor and the hair-clippers had done their work—he stepped into the ward, the old Asylum D. meeting everybody with a greeting, and chuckling over the success of having "fooled them again." At this juncture, I will mention that on February 19, 1895, a violent case of alcoholic mania was admitted to the Asylum, and placed on the same ward with D. The former proved one of the most destructive patients the institution could boast of; he would tear even the strongest canvas suits into shreds, destroy mattresses by the dozen, for weeks walk to and fro in his room without a stitch of clothing, at times talk about electric wires, then again scream wildly for a knife to cut off his big toe which was pierced by a thorn while he had been in Texas. I also may mention the fact that one of the experts testifying in the subsequent trials had an interview with D. at the Asylum, lasting not more than ten minutes. The remainder of D.'s life at the Asylum was uneventful. He had given good

proof that all of his tales about his travels were not the offsprings of his fancy. He related to one of my night-watchmen, James Gleeson, a born Irishman, incidents, and gave descriptions of coin indigenous to Ireland, and unknown anywhere else. I met him, and he at once begged me to have him transferred to jail for he was "tired of the thing" and was ready for trial. I learned his previous history so far related, and looked up the records on the Asylum files. The latter were evidently taken upon information given by some outsider, and were in some points so contradictory as to bear clearly the stamp of unreliability. Here are some of the alleged data: Patient's health good; had a very erratic uncle; education, common school; was hit on the head six years ago, was not unconscious; intellect when sane, good; habits are described once as industrious, then again as intemperate and disorderly; disposition when rational mild and quiet; general health, when sane, good; attacked mother and father (when, not stated); first symptoms of insanity, became irritable ten months ago; not filthy or destructive; has threatened suicide. My attempts to sift this information by communicating with the relatives, proved futile. But even allowing for intentional errors in this exceedingly meagre anamnesis, I suspected from the history furnished by reliable witnesses that D. had been feigning insanity on the two former occasions. While with me at the asylum, I spent a great deal of time in D.'s company, sometimes during day hours, then again in the quiet of the early part of the night.

He was mostly quiet, never violent, frequently foul-mouthed. His mentality was of rather low grade. He ate well and slept soundly. In his pleadings for release he would say that he would rather die than spend his entire life in an asylum; the latter could not hold him anyway; he had killed once, and is ready to kill again if he must, for obtaining his freedom from asylum restraint; he was never crazy but always somewhat "cracked"; he had told A. D., a fellow prisoner in jail, and the subject of a recent cause celebre, that he was a fool for reading insanity books and acting as he did; he should do as he (*i. e.*, our D.) did and he would be all right. On being questioned about his motive for feigning repeatedly he would say: "A man who was at the bug-house will never hang." Besides he spoke of the expectation that his attorney would get finally a change of venue, and a jury, of "country jays" would pronounce him somewhat cracked, but not sufficiently to be committed in an asylum, and let him off with a lighter sentence. He then hoped his case would be taken care of by one of the ablest criminal lawyers of the city, the same one who had fought his cause during his first trial. Having satisfied myself as to the true nature of the case, I asked D. to write a letter to the judge, which I would forward with a statement of my opinion. He transmitted to me on May 27, 1895, the following epistle: "JUDGE.—Dear Sir:—I take pleasure of writing you these few lines, hoping they will find you well as they leave me at present the same. Sir, Mr. —, would

you please do me a favor and ask my former attorney if he has withdrawn from the case, and if so please appoint another for me and send him out to see me as I would like to make arrangements to be brought back to court at once, and oblige; hoping to hear from you at once by return post. Very respectfully, yours D." Not a day passed but D. asked me about the result of our appeal, at times showing a great deal of impatience. As soon as I received by telephone the assurance that the authorities were ready to take up the case I sent D. a note to that effect. The note was returned to me with "O. K.—D." written on its back. On June 5, 1895, D. bade once more farewell to the asylum. He went out of the door smoking a cigarette, and after having given me a solemn promise not to act the fool again. One of the asylum physicians went down in the ambulance, and conversed with D., who showed a great deal of interest in noting the street scenes and changes in surroundings that had taken place since he had been deprived of his liberty. A few days later I noticed in a newspaper a paragraph stating that D. was again "shamming." I visited the jail, and as soon as he saw me he came up and said: "I knew you'd come; these — reporters put that in because I wouldn't talk to them, but call them —." Here followed one of his choicest epithets. He assured me that the report was false, and that he would rather die than go back to the asylum. But the newspapers continued to report that D. was acting the maniac, tearing his clothing and keeping himself as dirty as possible. I went again to jail. When the guard opened the cell door I perceived D. sitting on his cot stark naked, with a crumpled newspaper in his hands. He turned toward us and made a feint of throwing a cup at the guard while assuming a wild expression. The guard retired upon my request and with unceasing willingness, and I stepped up to D. As this is an important link in the evidence, I give our conversation somewhat in detail. "What is the matter, Charlie?" An inarticulate mumbling came in reply. "Here, here, don't you try that with me; we know each other too well for that." D. unrolled the evening paper, held it up to me, pointing with a finger at a certain spot. I read the headlines: "D. found shamming. Doctor —, called by the defense, turns State evidence." I laughingly remarked, "Well, you follow up your case pretty closely, don't you? Now, Charlie, what do you want to sit in this damp cell in such a way for; you will catch pneumonia before you know it." "Wait a minute, doctor; I will put on my clothes," He at once proceeded to enshrine himself in a pair of pants and a shirt, almost black with dirt (his destructiveness was never directed toward these paraphernalia). In front of the cell door he spoke of the coming trial and told me to testify to the truth, limiting the truth to a statement, that in my opinion, he was always somewhat "cracked."

This he attempted to prove by relating some incidents in his former life which were intended to show him not quite responsible. He had hit one man with a brickbat, another with a club, and he himself had been

kicked and beaten. "You just go and ask druggist F. on Easton Avenue; he will tell you that I was always somewhat cracked." These were his parting words to me. The newspapers related off and on some of D.'s antics before his trial. He was said to play the role of the jailer making rounds with a cigar box representing a lantern, and a stick; then again he would sit in his cell for hours pretending to catch fish. At other times he would tear up his mattress and act with some degree of violence. The next time I saw him—it was in the court room when his mental condition was to be inquired into by a jury. He walked in briskly, smoking his cigarette, and mounted a chair from which he at once descended when urged by the sheriff to do so. After this he sat down in a crouching position, the chin resting on his knees, and at times gazing fixedly to the ground. During the procedure of the trial, he would change his attitude, make a break for the door or a vicious lunge at the court clerk, ripping out an oath. When important testimony was given he would scream out, "Give us two beers" (holding up two fingers) "I paid eighty million dollars for the City Hall." "Give me a knife to cut off this toe." "Take away that — wire" (jumping up and pointing to a chair) "they'll kill me." At the end of the first day of the trial he caught a glimpse of one of my night-watchers, whom he knew to be a state witness, and with genuine vehemence he raised a chair to strike him with it. I watched him with great attention during the trial, and while I was on the witness stand. Through all his performance, which bore the stamp of voluntary exaggeration, or when in an apparent stupor, his face showed clear evidence of great strain, the expression of his eyes was lurking and furtive. It was unmistakable that not a single word, not a single incident in the court room escaped him; he went so far as to make a pun on a word used by a witness. His heightened activity was almost coincident with testimony prejudicial to his case. I may be allowed to give a summary of the points which lead me to pronounce D. a simulator.

1. The history of the man previous to the crime showed plainly the non-existence of any mental derangement. No evidence of epilepsy could be possibly adduced. Of rather low mental caliber, and of a roving disposition, he managed to adjust himself to the requirements of society, as shown by his having lived twenty six years without coming within the grasp of the law, and by his ability, even at the time of committing the crime, to make a living as a grocery clerk.

2. There was that all powerful motive of simulation, the desire to escape the extreme penalty for the crime.

3. The physical functions never failed him; he always was a good sleeper and a good eater. There was no occasion for my searching for somatic signs of insanity while he was under my observation.

4. The sudden onset and sudden termination of his insane spells were striking.

5. The distribution of the spells of mental derangement and of lucidity was extremely convenient. There

were two masks, one for the asylum, the other for the jail and court room.

6. The forms of insanity displayed, were peculiar; at first a somewhat nondescript dementia (not a partial dementia of one of the experts, which is an absurdity, for we may have all degrees of dementia, but it would never be partial), then follows a lucid interval of four months' duration without the slightest sign of dementia, but replete with an opportunity of taking object lessons in mania, and with the change of scenery this mania is reproduced with a few striking details and a great deal of overdrawn caricature.

7. The absence of actual filthiness in a profound state of dementia is peculiar, to say the least, for the great aversion to cleansing procedure, the evident desire to appear dirty and unkempt, is far from constituting the filthiness of a dement.

8. The destructiveness directed toward every obnoxious garment and bedding simultaneously, with the anxious preservation of the inexpressibly dirty shirt and pants, which were so much needed for their histrionic effect, are features which helped to arouse suspicion.

9. The overzeal in the attempt at proving himself somewhat unbalanced, or "cracked," to use D.'s own expression, was another point in favor of simulation.

10. The exaggeration in action, facial expression and speech, the undeniable desire of creating an impression, when acting under alleged maniacal excitation, i. e., acting the clown, and not the maniac; then again, while assuming the attitude and incoherence of the dement, D. would betray, by his tell-tale face, that nothing escaped his attention. The uneasy furtive eye was criminating witness against its possessor; not once did its glance meet the eye of the observer; the former's prototype, the genuine dement, would have presented under similar circumstances, the picture of complete unconcernedness and indifference, or might have gazed somewhat interestedly around the room and at the observer.

After mature deliberation, and on the grounds of these points, just enumerated, I thought the diagnosis of simulation in D.'s case justifiable. The jury chose to take the same view by declaring him of sound mind. I hoped that my connection with the case had ceased, hence I did not seek any opportunity for gathering further information. I only learned casually from one of the medical officials, whose duties brought him in contact with D. in jail, that the latter's conduct was laid out somewhat on the same lines as before. When the time for the second trial arrived, I was called as a witness in rebuttal, the insanity plea being still upheld by the defense. I saw D. in the court room twice. His attitude had changed to a degree. He was quietly sitting on his chair, his facial muscles twitching, the lower jaw moving, the eyes rolling to and fro. Upon close examination I concluded that the movements implicated the whole of the muscles; that there were no fibrillary twitches, but that the movements were executed under the command of the will. This was corroborated by the

different picture D. presented on the next day. He sat listlessly with head down and without a single facial movement, almost as if asleep. (I was told by a reliable witness that this picture, of what some of the experts termed terminal dementia, was seriously marred when the verdict of guilty was read. D.'s eyes had followed intently the course of the fatal sheet of paper, and he seemed completely stunned by the verdict. When moved to his cell he acted in great excitement, in every word and movement showing his full appreciation of the situation and its gravity). As no new features had developed, I did not see any occasion to change my opinion, and so I uphold my former diagnosis of insanity feigning. Before entering upon the consideration of the nature of the expert testimony, I will add that I never regarded the reasons adduced by D. for his repeated feigning as conclusive. His desire to appear very insane before the jury and lay-witnesses and "somewhat unbalanced" in the presence of professional witnesses, does not explain the whole of the situation. We must not forget that back of it all was the dread of the gallows, that horrible relic of barbarous times, which never yet stayed the hand of a murderer, but looms up in all its awe-inspiring nakedness after passion or greed have done their work. This dread of death so deeply rooted in all living organisms, was a sufficient motive for the first attempt at feigning. While at the asylum the prospect of being forever shut out from "sane" society, and the Micawber-ish hope that something may turn up, and the assurance of coming under the sheltering wings of a noted legal adviser, were entirely sufficient to prompt his wish for return to jail. No sooner was he encompassed by its walls than the extreme gravity of the situation appealed to his consciousness with renewed vigor; alone, friendless, moneyless; in the hands of attorneys unknown to him, appointed by the court, death stared him in the face, and he yielded again to the temptation of escaping the inevitable. This is not mere conjecture; I thought of this solution of the problem only after I had fully convinced myself of D.'s sanity. In dealing with such cases we must go back of clinical data, and consider deeply all the psychical possibilities of human nature. Now to the experts! In case of physical diseases, it is exceedingly rare for the physicians to differ in their opinion as to the fundamental condition of a patient, i. e., they may diverge as to the form of the disease while both will agree as to the fact of his being ill. It seems different in cases of psychical nature, not so much of course in cases of *bona fide* insanity as in those of suspected simulation of insanity. It should not be so. We may allow the greatest latitude in properly classifying any given case, for classification of mental diseases is still a matter of individual choice and predilection, and will remain so until the diseased brain will give up to us its pathological mysteries. But when called upon as experts we are not expected to classify; our task is ended when we can positively state that the person involved in the judicial controversy is either sane or insane. If

proper care, thorough all 'round observation without preconceived notions or bias have preceded the announcement of our opinion, there should but rarely be found divergent views in cases of insanity feigning. Scientific results can be obtained only by scientific methods, and these are, in our days, methods of induction. Gather up cautiously and slowly, fact by fact, starting without the slightest notion of your own, and when the array of facts stands before you in its whole completeness, then deduce and not before. The "flash-light" diagnostician has no place in the ranks of our modern scientific profession; his halcyon days have passed with wig and gold-knob cane. Whether delivering a diagnosis on the witness stand before a lay audience, or to himself in the solitude of a sick-room, the physician should be prepared in the very next minute to defend his dictum, under the cross fire of his professional peers. Krafft-Ebing⁴ says in regard to the procedure in cases of suspected simulation: "The examination of suspected feigning does not differ from that of any other doubtful mental state, except in a more prolonged and uninterrupted observation for which an insane asylum should be the most suitable place." And then again: "The synthetic method of observation is the only correct method. The diagnosis should be reached not with the help of isolated symptoms but through consideration of the entire individuality, not by presumption, but by unbiased consideration of all data." As a newcomer in the ranks of specialists, I can not usurp the prerogative of the well-recognized authority, to step before you with a bold dictum. I am on the defensive, hence I may be allowed to enter somewhat into the detail of the expert testimony, quoting not from memory, but from a faithful transcript made by the court stenographer. I shall limit myself to the first trial.

Witness A. "He has seen the defendant but once in jail and once in the court room; had made no special study of the case; unqualifiedly stated that defendant was insane." This speaks for itself.

Witness B. "Had seen the defendant at the asylum once [for ten minutes] and twice in jail. He said that there were certain traits which showed mental weakness, or signs of a certain amount of imbecility." I quote further: "We must suppose that when men simulate insanity they are acting a part, and to act a part as that man has done *continuously through eighteen months*, must naturally put a man under great strain." Then followed a learned discourse on psychical epilepsy, or epileptic equivalents, which were found by Lombroso and one of his pupils, to exist in 20 to 30 per cent of all criminals observed. "It is a well known fact to alienists that these men who are in a transitory epileptic mental state sometimes commit the most frightful crimes, then after they come out of that state they forget all about it, or forget a great deal about it, and only have a partial recollection of the deed. Those are the clouded

states of consciousness, and it is *mere conjecture* in this case as to the cause of this man's present imbecility, and all that I can say is that at the present time I do not consider this man in a normal mental condition." The time spent by this witness in examination extended at the utmost over an hour and a half. He is guarded in his statements, showing clearly that he is not satisfied with the results of the examination, which in itself should have deterred me from giving an opinion. He ignored completely the testimony offered by the State witnesses in placing the period of simulation at eighteen months; of these eighteen months D. had spent

Three months in jail.

Two and one-half months in the asylum.

Four and one half months in the jail.

Five months in the asylum.

One month in the jail,

i. e., he was acting the part of a simulator during eight months interspersed with long periods of complete rest. When we remember that D., a great part of the time while in jail, acted simply the clown, and did not attempt to affect a form of insanity, which would have drawn greatly upon his emotion or will-power, the strain was not quite as great as it seemed to appear to the witness. As the whole discourse on psychical epilepsy was based on mere conjecture of its fitting the case at hand, I may be pardoned in throwing the cloak of mercy over it, and in limiting myself to the statement that I fully agreed with the witness in viewing it a conjecture, only that I would have omitted the entire "epileptic chapter" as an unnecessary digression, uncalled for by all the clinical data in the case.

Witness C. Examined defendant this morning (July 9, 1895), for the first time. In his opinion it was a case of simulation in the insane. He believes positively the man simulating to a degree. D. at first appeared to portray utter dementia, *the graveyard of the intellect*, then delusional insanity; this mixing of types of insanity makes him believe honestly that this man is simulating to a degree. In his opinion he started in to simulate. Here I quote: "Now Krafft-Ebing teaches us that no man can simulate insanity for any length of time without becoming insane. I believe that this man is what they call a degenerate. Now a degenerate means a departure from the normal type of mind. The soil is bad." The following stigmata are enumerated, the abnormal binauricular diameter, the peculiar cast of eye, the beard. I quote further: "Now I believe that that expression he has on now is simulated. I moreover will state that I am certain this man is not in a position, because of his simulation so continued, to appreciate his surroundings. I believe that the man is a degenerate, and that there is now existing, because of his long feigning, a beginning partial dementia. There is no question that a man in that condition [of simulation] so long and with his stigmata of degeneracy, is unfit for trial. I believe that his mind is so diseased that he is unable to give instructions for his defense, because of his being a degenerate."

⁴Loc. cit.

This very same degenerate was capable just a month previous to the trial of instructing me as to steps to be taken for his release from the Asylum, capable of appealing in a very sensible letter (*vide supra*) to the judge and asking for the appointment of an attorney. Degeneracy if proved to exist beyond a doubt, should be considered by an expert witness as a subsidiary factor in deciding the predisposition of an individual to mental disease. But he must not lose sight of the fact that degeneracy affects mainly the question of responsibility which may be inquired into and taken account of by the judge and jury for the purpose of establishing the existence of extenuating circumstances. Krafft Ebing admonishes us in this way: "No matter what side the physician is called by, he should never forget that he is a perfectly neutral representative of science, and that the question of guilt, and the outcome of the trial do not concern him in the least." We bandy around entirely too glibly these catch-words of modern criminological science, and that on the shortest, most superficial knowledge of the brilliant work done by Lombroso and his followers. Long before them did Morel⁷ write: "I am not for a moment in doubt that the laws regulating the penalty among all civilized peoples are destined one day to undergo modifications which will be accredited to the physicians who will have learned to make better known the numerous modifications that heredity imprints upon the organization." When that period predicted by the great French alienist arrives, capital punishment will be the first one to go. A hundred years from now, we may look with the same horror upon the execution of criminals as we do now at the judicial murder of witches which took place in Glarus, Switzerland, as late as 1783, and in Poland in 1790. The contention of the advocates of the present extreme penalty that the latter is a prophylactic measure has many times over been proved fallacious. The ideal mode of treating the habitual criminal, particularly the one with plain earmarks of degeneracy, would, in my opinion, consist in the prevention of his perpetuation. Castration would solve the problem in a strictly scientific and perfectly feasible manner; in addition to this, sequestration of the homicidal criminal with complete abolishment of the pardoning power would prove a measure essential to the safety of society. With disappearance of the gallows or the ax, the problem of managing the degenerate in every concrete case would be greatly simplified. We should do all in our power to bring on the desired end by systematic propaganda, particularly as the work of the modern criminologist rests on a truly inductive basis. Still, we must recognize the fact that we are an integral part of society as it exists, and not as it should or will be. The task of the medical expert is perfectly well defined, and I can not do better than quote from our much (and at times ill) quoted master, Krafft-Ebing:⁸ "The right and duty of medical science

to decide in such questions of doubtful mental health are well recognized and defined by the laws of the present day. The medical expert in fulfilling this task does not play the role of either witness or assistant of the judge. He is not a witness as he does not limit himself to reports of observations made with the help of his special senses; he makes scientific deductions from the facts observed, and instructs the judge with regard to the significance of these facts. He is not the judge's assistant for he is not called upon to decide as to the guilt of the accused or the penalty to be inflicted. Not in discussing the questions of *responsibility or free will*,⁹ but in proving the existence of mental health or mental disease by means of a scientific examination is his real task." Krafft-Ebing amends this statement by saying that on certain occasions the medical witness will have to deviate from this rule when asked to do so by the judge who may find it necessary to inform himself on the question of responsibility so as to decide upon the existence of extenuating circumstances. If I had been called upon in D.'s case to express an opinion as to his responsibility I would have stated, without a moment's hesitation, that D. should not suffer the extreme penalty imposed by the law. Individuals of his type endowed with rather low mentality, hence with diminished inhibitory powers, should be treated more leniently than those more highly endowed. He is a proper subject for life sequestration and under existing conditions, the penitentiary is the only place for such sequestration. I will state here that in the source of my examination while on the witness stand, the question of responsibility was not raised. I was convinced that the defendant was not insane, was feigning insanity, and that he fully appreciated his surroundings, the situation created by his offense, and all the occurrences incidental to the trial and its outcome. Let us return now to our witness. He misquotes Krafft-Ebing, for I can not find a single allusion in his chapter on simulation of insanity to any such statement as the witness ascribes to him. I think Heller speaks of two French soldiers who feigned insanity for a year, and acquired actual mental derangement. Other instances of such a nature have been recorded. The point of the effect of long-continued feigning in D.'s case I believe to have refuted when speaking of the testimony given by witness B. The act of ignoring the entire previous history of the case and of arriving at conclusions upon a superficial examination, characterizes the work of all three witnesses. The actual time spent in observing the case was about nine, ninety and twenty minutes, respectively. What does Krafft-Ebing¹⁰ say with regard to the time necessary for a successful accomplishment of the task put on the expert? He says: (I do not quote literally) that it may take months to render an opinion, rarely, and then only in well characterized forms of insanity should an opinion be given *prima vista*. This allow-

⁷Morel. *Traite des Maladies Mentales*, page 544.

⁸Loc. cit.

⁹The italics are mine.

¹⁰Loc. cit.

ance is not made for cases of suspected simulation. To call the expert during the trial is highly reprehensible. Physicians who yield to such a call, act recklessly. It is more honorable in such a case to refuse to appear and demand further opportunity for observation and a continuance of the trial than to display brilliancy. As to the place for observation, particularly in difficult cases (simulation, dissimulation, epilepsy, etc.), in which continuous observation is essential a hospital or an asylum are recommended as most appropriate. He adds that the period of observation of six weeks as prescribed by the laws of Germany, will prove insufficient in some cases. The contrast between these peremptory demands upon the medical expert, and the course pursued by the above quoted experts, is so striking that I do not need to enter into any further discussion.

I shall refrain from giving a detailed account of the testimony produced at the final trial. Suffice it to say that no motive or a very slight motive, was found for the killing of a married woman who had repeatedly refused to yield to the demands of her assailant—and this in the face of the well-known fact that the sexual element plays such an important and frequent role in homicides. The fact of the defendant's remembering quite well all the circumstances surrounding his deed, were not taken into consideration while epileptic states of clouded consciousness were discussed. The clinically enigmatical "partial" dementia—that "partial" graveyard of the intellect—had given place to hopeless terminal dementia. All the data leading up to the first trial, the defendant's behavior in the jail and his appearance on the first day of the second trial were laid aside as irrelevant. The epileptic feature was seemingly much strengthened by testimony proving the defendant to have been a victim of some sort of spasm when a child—an event which the anamnesis at the Hospital and at the Asylum had failed to reveal, and which did not transpire during the progress of the *de lunatico inquirendo* proceeding. The same may be said with regard to repeated injuries and a sunstroke, of which D. was said to have been a victim in the course of his past life. Much was made of these incidents as if they could have been considered anything more than a possible hint in the direction of a diagnosis of insanity. The personal experience of any alienist, extensive as it might be, is never sufficient for deduction of incontrovertible statistical data. I resist the temptation of presenting to you a resume of Krafft-Ebing's¹¹ personal observations of twenty-five cases of "traumatic insanity," and his most interesting deductions, but I may be allowed to quote some significant statistical data mentioned in a footnote: "The statistics at Illenau covering a period of 20½ years and 4062 cases, show in Table XXII, only 55 pure cases of insanity from trauma, of which 42 were men and 13 women, and 39 cases (26 men, 13 women)

in which besides head injuries, other physical or psychical causes played a role—a total of 94 cases. In the Phorzheim Asylum but a few cases of traumatic insanity were recorded during the same period as we were assured in communications written to us. Even let us assume that a number of traumatic insanity, existing in Baden during that period, had not come under observation of the Asylum physicians, it is evident that the proportion of the number of cases of traumatic insanity to the total number of brain-concussions and head-injuries inflicted in Baden, is exceedingly small. The preponderance of men afflicted in such a manner, is easily explained by the fact of their being so much more exposed to traumata than the other sex." Barring the etiological possibilities suggested by the trauma said to have afflicted D., there is in the whole picture of his case absolutely not a single feature (unless violently forced into it) which would justify even the slightest suspicion of epileptic seizures, no matter whether of the "grand mal" or the "petit mal" type, or of psychical equivalents, pure and simple. I shall not inflict upon you a reproduction of the hypothetical question propounded at the trial. It was so absurdly fragmentary and lacking in clinical continuity that I flatly refused to commit myself as to the mental status of the hypothetical individual. The "experts for the defendant" must have taken a different view as they unanimously pronounced that individual "unqualifiedly insane." The designation of "experts for the defendant" brings me directly to my concluding remarks which I formulate into an appeal to you as a society and as individual members of the profession. The fact of having experts for the prosecution and experts for the defence, and not simply medical experts, peremptorily points to the existence of a crying evil. Our entire system of medical expert testimony stands in need of a complete reform, and in this State the present happens to be the time most propitious for the inauguration of such a reform. Justly or unjustly, the "vox populi" has been raised against the so-called insanity dodge, implicating in its condemnation the medical witnesses. Such a state of affairs is deplorable not only on account of the serious reflection cast upon the medical profession, but mainly on account of the creation and possible perpetuation of a prejudice in the popular mind against the plea of insanity in every concrete case. The danger to a defendant suffering with a bona fide mental disease is self-evident. I would include in this reform all judicial procedures in which the mental condition of the defendant is in question, whether they take place in a criminal or a civil court.

Several plans for changing the present *modus operandi* may be suggested. One plan would be the creation of a permanent commission *de lunatico inquirendo*, consisting of men professionally and scientifically qualified to serve in such a capacity; their labors should be paid for by the State at a fixed salary or by definitely fixed fees. This is the system lately advocated in New York State. I should like to suggest another plan which seems to

¹¹v. Krafft-Ebing. Ueber die durch Gehirnerschuetterung und Kopfverletzung hervorgerufenen psychischen Krankheiten. 1888.

MEDICAL REVIEW.

EDITORIALS

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PUBLISHED UNDER THE AUSPICES OF THE
MEDICAL REVIEW ASSOCIATION

BY O. H. DREYER.

YEARLY SUBSCRIPTION, \$3.50. SINGLE COPIES, 10 Cents.

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Entered at the St. Louis Postoffice as Second-Class Matter.

The Efforts of Preventing the Spread of Consumption by the St. Louis Board of Health.

The St. Louis Board of Health has recently adopted a resolution, recommending the enactment of a city ordinance prohibiting expectoration on the floors of street cars and other public conveyances, and on the floors of hotel corridors, theaters, public halls and places of public worship. The ordinance shall further provide that the porters in charge of these conveyances and places be required to furnish a sufficient number of cuspidors, each supplied daily with some disinfecting fluid to be approved of by the Board of Health. It shall also make provision for the inspection of such conveyances and public places by the sanitary division of the Health Department.

In order to fortify the position of the Board of Health, the St. Louis Medical Society passed a similar

promise still better results, but, perhaps, is not quite so feasible at present. I suggest this in full accord with Krafft-Ebing's views in regard to the proper qualification of the insanity expert. He says that only a rather prolonged study of psychiatry in the insane asylum or in the psychiatric clinic will equip a physician with the knowledge required for expert work. Theoretical studies are entirely insufficient in dealing with the science of medico-legal psychopathology which is so pre-eminently practical and grounded on observation. (Here I will say in extenuation for my temerity in appearing in a case of a psychical nature, that I should never have done so if it had not been for the fact that the case was one of unusual crudeness, yielding readily its essential features to a mind of some clinical training). My plan is to select scientifically competent men for heads of our insane asylums. The first appointment should be based on the result of a rigorous competitive examination conducted on the same plan as the examination of the assistant physicians at the Cincinnati City Hospital are or were conducted. A number of alienists of national reputation should be invited by the State Board of Health to propound a series of questions in writing, and the answers should be submitted to them for scrutiny and final decision. As to location, the competitors are to be limited only by the border lines of the United States. They should have to prove by a certificate or affidavit that they had spent at least two years in an asylum previous to their application. The compensation of the superintendent should be sufficient to induce a good man to retain the position indefinitely. All cases of suspected mental disease should be confined in special observation wards at the nearest asylum. In difficult cases the superintendent would have the privilege of requesting the court for consultants who are to be paid by the State. The inquiry into the mental state of any person coming within the jurisdiction of any court, should be always instituted by the presiding judge, but counsel for the defense or prosecution shall have the right of making application to the judge for such an inquiry. The result of the medical examination is to be submitted to the judge in writing, and the expert shall only be called by the latter on the witness stand for his own or the jury's further instruction. The judge shall be empowered in case of doubt, to call further consultants who again are to be paid by the State. This is roughly my plan which, for practical purposes, would have to be thoroughly elaborated, and put in working shape by the master hand of a practical legislator. Whatever plan may finally be agreed upon, there should not exist any divergence of opinion among all fair-minded men, that the present system is fraught with dangers, and must be supplanted by a system which will bar the door to unscientific methods, and prove a safeguard to society and to the unfortunate who, actually burdened with a diseased mind, offends the law's mandates, or is not capable of fulfilling his civic obligations.

resolution at the meeting of March 7th. The opinion of the members with regard to the efficacy of these measures was, however, much divided. The general conviction, even of those members who voted for the resolution, being that the question of prophylaxis by diminishing the number of bacilli that may be inhaled, in a manner provided for by the resolution, is one in which the last word has not been spoken. Some members seemed to think, moreover, that the carrying into effect of the proposed sanitary measures would be very difficult or practically impossible.

Personally, we believe that the adoption of the resolution is timely and in harmony with the present stage of knowledge in the wide field of preventive medicine. It is more humane, practicable and just than the attempt of some health boards of compelling "consumptives only" to destroy the infectiousness of their expectorations and dejecta. Our convictions with regard to this latter class of sanitary zeal we have expressed on former occasions. On general principles, and particularly for the sake of cleanliness, the resolution, if it can be successfully enforced, commends itself to every citizen of esthetic taste and cleanly habits. The practical results of this and similar measures, with reference to the reduction in the number of consumptives, may possibly be decided within the next few decades.

There are too many well known factors entering into the production of this dreadful disease and its perpetuation, as well as in its successful conquest by prophylactic measures and medicinal treatment that, at present, it would appear as a glaring example of superarrogation to predict anything with regard to the probable results of either. That a rational prophylaxis, hygienic and climatic treatment are the only trustworthy means by which consumption can ever be checked, appears at present as the most probable hypothesis. That all the more or less active medicinal remedies of the past, present and future can only act as adjuvants in the healing process, must be plain to anybody who is acquainted with the pathology of the disease.

In order not to be misunderstood we wish to emphasize that in speaking of consumption we mean only the chronic tuberculosis of the lungs and not any other form of tuberculosis. For in cases of pure and acute tuberculosis and the various forms of local (surgical) tuberculosis the treatment with a trustworthy anti-tuberculin may, possibly, prove of value. The morphologic, biologic and pathogenic characteristics of the tubercle bacillus change with its environments, this fact, together with the peculiar pathology of consumption, is the reason why nearly all former and present prophylactic attempts are based upon hypotheses.

The education of the people with reference to the known facts in the prophylaxis of tuberculosis will probably be more effective than the enactment of laws. The latter, on the other hand, may be expected to contribute to this very education. Personal and general cleanliness, the rational disinfection of sputa and dejecta of consumptives and a careful investigation and super-

vision of the milk and meat supply are at present the main issues in the attempt of diminishing the sources of infection by tubercle bacilli. The most pressing necessity is, no doubt, a rational supervision of dairies. No tuberculous cow should be allowed in their stables. The diagnosis of pearl-disease (tuberculosis of cattle) by the hypodermic injection of tuberculin is exceedingly simple and well established and the neglect of effectually preventing all tuberculous animals from yielding milk or meat for the consumption of citizens appears to be a criminal negligence of our city authorities which can not be too severely reprimanded and chastized.

Cleanliness in dairies, their stables as well as everything connected with the city milk supply according to the laws of modern hygiene and the unexceptional and effectual removal of all diseased animals, should be made a peremptory law by the city legislature and this law should be formulated in such a manner that the city milk inspector could readily carry out its provisions. The laws applying to the city dairies are practically ineffectual and absolutely inadequate in protecting the health of the citizens.

There is no hygienic measure of more importance than the conscientious and intelligent supervision of the city milk supply. It is strange how few people know that under present circumstances milk should be boiled. The boiling will practically destroy nearly all the pathogenic organisms, leaving, if the milk is fresh, their ptomaines as the only ingredients capable of undermining the health of milk consumers.

The address of Milk Inspector, Dr. Carter, at a recent meeting of the St. Louis Medical Society, was a move in the right direction and we hope that the Doctor will meet with an energetic support of all citizens, and, above all, of the physicians and legislative bodies, in his efforts of improving the present system of dairy inspection and the laws affecting the management of the St. Louis dairies.

The Value and Desirability of Literary Contributions From General Practice.

It is a singular, but universally observed fact, that the overwhelming majority of literary contributions to medical journals emanate from the larger cities and that this is not a relative, but an absolute majority. The principle reason for such a phenomenon is, undoubtedly, that the facilities for specialistic studies are, as a rule, greater in the city than in country districts or smaller towns. Specialists are usually more prolific writers than general practitioners in large cities as well as in smaller towns. They have more leisure and opportunities to write, and the habit of writing, once formed, is more apt to be kept up than where it is practiced at longer intervals. It would appear, however, that there really is more interesting material at the disposal of the general practitioners which is worthy of being treated in a scientific article than the comparative dearth of original articles on the part of our colleagues in smaller

towns and the country seems to indicate. Some of the most highly educated physicians are practicing in smaller towns. Their observations and literary contributions are valuable to their colleagues and will increase in no small measure the authors' reputation and prestige.

The practice in the country has peculiarities and attractions of its own, the careful study of which are as valuable as that of any subject within the limits of a more narrowly circumscribed specialty. The influence of the topographical conditions of certain territories upon health and disease, of the humidity or dryness of the soil, of the rational hygiene of dwellings and of meteorological conditions, peculiar to country districts—all of these appear to offer a prolific source for original thought and investigation in which the general interest would be equal, at least, to any observation in other fields of practice, while the chemical, physical, microscopical and bacteriological examinations should be at the disposal of country practitioners in the same degree as of their colleagues in the large cities.

By exploiting scientifically every opportunity for careful observation, the general practitioner becomes, in reality, a specialist in his sphere of activity, and his remuneration should be equal to that of any representative of the so-called recognized specialties.

It seems that it ought to be possible for the well educated country practitioner to sooner or later mould his own surroundings with regard to the range of his scientific observations. That, on the other hand, overwork and insufficient remuneration may, in some instances, be an obstacle in the materialization of such ideals, we do not doubt. But we believe that the intelligent practitioner will find abundant opportunities to enlighten his city colleagues on experiences peculiar to country practice which will be interesting, instructive and much appreciated.

More abundant literary contributions, then, from our colleagues in the smaller towns and country districts in this and other States will be warmly welcomed by their city confreres and we take advantage of this opportunity in encouraging and requesting our numerous subscribers who are engaged in general practice in or outside of the larger cities to carefully note their observations and instead of hiding their lights under the bushel, to contribute more frequently to the pages of the *Review*. We would remind them, finally, that such men as Ephraim McDowell, Koch and many others who have astonished and revolutionized the medical world by their originality and genius, were modest and unassuming country practitioners.

The Abolishment of Capital Punishment.

The paper of Dr. Runge upon the subject of "insanity feigning" and "remarks on medical expert testimony," which appears as an original article in this issue of the *Review*, contains many points of general interest. In the author's opinion the ideal mode of treating the

habitual criminal, particularly the one with "plain earmarks of degeneracy," is the prevention of his perpetuation by means of castration and sequestration from society, together with a complete abandonment of all pardoning power. In theory this is an excellent idea, which would, in order to carry the humane treatment still further, resolve itself into the simple treatment of sequestration. For if the latter could be carried out successfully, mutilation of the body by castration would be an absolutely superfluous and, therefore, cruel and uncalled for procedure.

The inexpediency of the essayist's proposition lies in the fact that effectual sequestration for life is, under present conditions, an impossibility. Unless the State can furnish a sufficient guarantee that a sentence of imprisonment for life means in reality a practical impossibility of the prisoner's escape or pardon, the abolishment of capital punishment will remain an utopia.

Medical Expert Testimony.

The absurdity of the present method of admitting separate medical expert testimony for plaintiff and defendant, to which Dr. Runge also alludes in the above mentioned article, has for some time been agitated in medical circles. Under the present system men have at times been admitted as experts who would never be recognized as such by the medical profession. The function of experts should be to advise the court and lend their aid in arriving at a final conclusion. Experts, deserving such a name, may disagree with regard to the kind or character of a disease, but it is almost inconceivable that they should radically disagree as to the existence of disease. The latter, it appears, is only possible under such a farcical system of admitting medical expert testimony as it is in vogue in the courts of this country. The enactment of a law providing for a rational definition of what shall be understood by the designation of "medical expert" as well as a provision for an advisory council of such experts, has become a crying necessity and it is the greatest wonder that such a law has not been enacted many years ago.

Last year the Medical Society of the State of New York took up the question and appointed a committee, consisting of Dr. J. B. Ransom, Dr. Carlos F. McDonald, Dr. H. E. Allison, Dr. S. B. Ward, and Dr. E. D. Fisher, to report a plan. At the recent meeting of the Society this committee reported that, recognizing the difficulties in the way of formulating a plan that would be both satisfactory and constitutional, they had corresponded extensively with members of the legal and medical professions, and they presented the following resolution which they thought represented the best opinions as expressed to them in the light of present constitutional restrictions:

Resolved, That the Medical Society of the State of New York would recommend the enactment of a law by the Legislature providing for the appointment of experts by the courts, and that only physicians of re-

pute in the particular branch of medical science to which the question calling for expert opinion relates shall be appointed; that the function of the experts so appointed shall be advisory, and the number thus appointed shall be such as to adequately represent the court and both sides of the question at issue as in the judgment of the court shall seem necessary; that the experts so appointed shall have full and free access to all the evidence in the case, as well as access to the plaintiff or defendant in person, as the case may be, if the issue involves his mental or physical state; that the expert shall submit to the court, for transmission to the jury, a report in writing setting forth their conclusion and the facts in evidence on which such conclusion is based; that the cross-examination of such experts shall be limited to the facts and opinions embraced in their testimony as embodied in their report; and that their compensation shall be fixed by the court at a rate that is reasonable for professional services of such a nature."

The report was adopted and referred to the Society's committee on legislation whose task it will be to frame a bill conforming to the requirements of the resolution as well as to make its provisions acceptable to the legislature. It would be desirable in the highest degree that other State societies follow the example of the Medical Society of the State of New York and speedily correct this farce of a system in legal prosecutions which constitutes one of the most reprehensible blemishes in the court procedures of this country.

MEDICAL SOCIETIES

PROCEEDINGS OF THE ST. LOUIS MEDICAL SOCIETY.

W. H. FUCHS, M.D., EDITOR.

Stated meeting, Saturday evening, February 15, 1896; the President, W. G. MOORE, M.D., in the chair.

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DR. THOMAS SUMMERS presented a paper (see next issue), entitled

The Trend of Modern Therapy.

* *

DR. I. N. LOVE read a paper entitled

Antitoxin Treatment of Diphtheria From a Conservative Standpoint.

DR. BENNO BRIBACH had hoped to hear the essayist present some observations in favor of the antitoxin. The objections which he urged against its use have been spread through all the literature for the past year or two. The chief objection presented—that antitoxin is ineffectual in cases of mixed infection—was fully argued and demonstrated by Roux two years ago. He pub-

lished a summary of 460 cases of diphtheria of all kinds treated with the antitoxin and showing a mortality of 24 per cent. In the same class of cases, with ordinary remedies and methods of treatment, the mortality had been 51 per cent. The mortality in cases where only the Klebs Loeffler bacilli were found was 7 per cent, and in those cases which had progressed to a state of mixed infection the mortality was 54 per cent. And that this was not a mild epidemic is shown by the records of other hospitals during the same period of time.

The doctor said he could speak authoritatively only from his personal experience with the disease, which unfortunately, was larger before the days of antitoxin than since that time. The treatment of diphtheria has varied greatly, and every year has brought a change and new claims for remarkable therapeutic virtues for some special remedy. During his college career the mercurial treatment was very much decried, and when speaker saw his neighbors using calomel in the treatment he thought of how much wiser he was. But he soon began using it himself. He had used everything, from benzoate of sodium and mercury down, and the results have all been practically the same; the mortality was one in three or four. Here, as in most of our therapeutics, the science of yesterday becomes the ignorance of to-day, and what we think is scientific to-day we find is ignorance to-morrow.

We have a great deal to learn about the true pathology of the disease. The biological and bacteriological phenomena and causes of disease are important, but the clinician has not the time, nor often the qualifications to make the satisfactory and trustworthy investigations in this line. It matters but little to the clinician, the practitioner, whether the disease is a local or constitutional infection, his investigations are directed towards finding therapeutic means. Up to the introduction of antitoxin the results were almost the same, a mortality of one in three or four was the result of all efforts.

Speaker gave his first injection of antitoxin one year ago to night, February 15, 1895, and has used it in 57 cases of true, undoubted diphtheria. Although in most instances an examination was made by the Board of Health, he did not rely wholly upon this means of diagnosis, placing greater weight upon the clinical picture than upon the bacteriological findings. In most cases the clinical diagnosis was confirmed by the microscopical examination; in some the clinical picture did not bear it out, and in others the clinical diagnosis was confirmed by subsequent microscopical examinations. In no case was the antitoxin used where the slightest doubt existed as to the genuine character of the infection.

The method of procedure has been described in detail so often that it is not necessary to dwell upon it here.

Of the 57 cases injected only three died, and these could not be called failure of the antitoxin, as death resulted respectively three, four and six hours after the injection.

Most of the speaker's cases occurred in the Fifteenth Ward, Carondelet, and he had treated about one third

of all cases occurring in that district. Whilst he had not seen any of those severe cases with which we are all familiar, there was an unusually large proportion, 19 or 20 cases, of tracheal and laryngeal diphtheria. All of these recovered where formerly the death rate was appalling. The absence of severe septic cases, speaker thought, was due to the early employment and prompt action of the antitoxin. In the entire district there occurred 28 deaths from the disease, but speaker had had no deaths from diphtheria in the same period of time, excepting the three cases to which he was called in consultation.

The essayist speaks about conservatism in the treatment of diphtheria. What is there to conserve? If we use the remedy early enough, not waiting 24 to 48 hours for a confirmation of the diagnosis, it is an absolute specific, as far as one is possible, and nothing like the results obtained by its use has ever been achieved by any other agent or process. He predicted that it would become customary to use it in all cases of suspicious sore throat.

During the past three months speaker had had no cultures made. In some cases of clinical diphtheria the microscopic findings were negative, whilst in others the bacilli were found in cases of simple sore throat. Whilst a bacteriological examination is very valuable in establishing a positive diagnosis, speaker has come to the conclusion that it is best to rely upon the clinical evidence. However, microscopy has established the identity of true membranous croup and diphtheria.

The first ten cases were treated locally and with internal medication, in addition to the antitoxin injections, but in the last 45 or 50 antitoxin was used exclusively. Antiseptics may be of value in severe ulcerating or gangrenous sore throat, but in the average case do not add materially to the ultimate therapeutic result.

No other remedy has yielded the same favorable results as antitoxin, and there is no need of talking about conservatism. The trouble, where failure attends the injection, is in the fact that the remedy is used too late.

DR. EDWARD W. SAUNDERS gave a detailed account of his experience with, and his observations in the use of antitoxin. It is a large subject to deal with, he said, so that he would confine himself to the arguments brought forward in the essayist's paper which showed a great deal of research on the part of Dr. Love.

Lennox Browne's book, which has just been published, has undoubtedly given a great blow to antitoxin, and it is singular that there should come from England so much that is unfavorable to antitoxin. Browne gives us statistics in a very careful, fair-minded way, and as they are unfavorable to antitoxin they are entitled to very careful consideration. However, they are totally at variance with the speaker's personal experience, which has been very large since November, 1894, so that there must be some cause for the failures recorded by Browne.

In the reports from Berlin, made to this Government by Dr. Kenyon, of the United States, we are told that

the antitoxin treatment does not agree with the antiseptic treatment by means of bichloride and carbolic acid; in other words, the effect of antitoxin is antagonized, or even neutralized, by antiseptic agents, and they must not be used in conjunction if good results are to be obtained. Lennox Browne seems to have ignored these facts altogether, for he speaks, in his reports, of using chlorate of potash, salicylate of sodium and the bichloride and protiodide of mercury in conjunction with the serum. Salicylate of sodium will produce albuminuria and casts in a healthy person, and chlorate of potash is to be dreaded on account of its well known deleterious effects upon the kidneys. In view of these facts, and the information to be gleaned from the Berlin reports, it is but fair to assume that one of the sources of his failures is the peculiar combination in which he gives the antitoxin. He frankly admits that he considers the serum as but an adjuvant to the other treatment. He also speaks of using camphorated serum, which, in speaker's experience, has proved itself far inferior to the serum preserved with tricresol. He also speaks of repeated injections. Although Lennox Browne may not have seen them, wonderful changes are produced within 18 to 38 hours after an injection. Speaker could not see the rationale of the procedure of using repeated injections.

Since November, 1894, speaker said he had never gone to bed after seeing a suspicious case without having first injected the antitoxin. Of course, he had made mistakes in that time, but he injected simply out of abundant caution, and because he could not take it upon his conscience to allow the patient to run the slightest risk, which he would do if allowed to go without an injection for 24 hours. Two proved to be cases of caseous growth, although they were considered diphtheritic until 13 hours later, when the Board of Health made a report. The other was a case of laryngeal stenosis due to simple laryngitis.

As to the examinations of the Board of Health, speaker considered them a great help and found no cause to complain. He recognized the fact that many people have Klebs-Loeffler bacilli in their throat without being themselves subject of the disease. We see such persons who are immune and never had the disease, yet they are carriers of the bacilli and threaten the community, and may sometimes become subject to the disease themselves, after having carried the specific infection for some time. That, however, is no argument against bacteriological science. It is the province of the Board of Health to isolate these carriers of the disease from those who are subject to it.

A case in point is that of a boy who was admitted into the Episcopal Orphans Home some months ago. He had no history of diphtheria and he certainly did not have the disease when admitted; but that boy gave the disease to a number of children. Cultures were made from all the throats in the ward, and the most virulent was the one from the throat of that boy. Dr. Ravold made a test of the culture by injecting it into a

guinea pig, killing the animal in 18 hours. The case shows that the Board of Health has taken the right position in the matter. One great harm is done indirectly by this bacteriological examination, however. A physician is called to a case which presents a clinical picture of diphtheria, yet he will allow 24 hours to elapse, waiting for a confirmatory report from the Board of Health, before he gives that child the benefit of antitoxin. The fallacy of this procedure has been urged repeatedly, and the Board of Health warns the profession not to wait.

What do we see within 18 hours after an infection, if the dose has been full, or within 36 hours, if the dose has not been up to the standard, or the case a very severe one? The temperature, which has been high, falls to 100 or 101° or even to the normal; the pulse rate falls; the secretions are re-established; the patient's appetite returns; if there has been a serous discharge from the nose, it becomes mucous; if the mouth has been dry and the fetor of the breath pronounced, the dryness and fetor disappear because the secretions are re-established; but the most astonishing effect of all is the "melting away" of the glands of the neck. Within 12 hours we see the outline of the inferior maxilla. It is the most astonishing therapeutic effect ever seen by speaker, and is paralleled by only one instance, that of a case where, on the eighth or tenth day, after persistent vomiting, when the patient is about to die of heart failure, the glands disappear and the throat assumes a cadaveric appearance. It is never seen in the early stage of the disease, except under the influence of antitoxin. From that moment you have no longer to deal with an acute infectious disease, but with a convalescent patient. But the convalescence of diphtheria is the most dangerous that we know anything about; in fact, as many patients die during convalescence from the various paralyses, etc., as during the acute stages of the disease. Antitoxin does not prevent these complications; it may do so in part but not wholly, and this should not be forgotten, so that the proper precautionary measures may be taken. If the patient died within twenty-four hours after an injection of the antitoxin, then in all fairness, the death should not be registered against the remedy. It is not possible that it should do the patient any good within less than 18 hours at the least, and in the deaths in the cases cited by Dr. Bribach were justly not to be attributed to the antitoxin.

Now as to the statistics. In speaker's opinion, antitoxin has not been given a fair trial. The statistics from hospitals will never be better than they are at present, because patients are not sent to the institutions early enough. The hospital statistics will never improve unless the public can be educated up to sending patients immediately after the first indication of sore throat, and before mixed infection has become established.

And in private practice antitoxin has never had a fair trial on a large scale, because men like Lennox Browne have not had that unbounded faith in the remedy which

makes them forego the use of the old treatment. They have either combined the two to the destruction of the antitoxin, or they resort to it only in the most severe cases, and then only after a most profound toxemia has become established. The only way in which antitoxin will ever get a fair trial will be for a great number of physicians to pledge themselves to use it in every case of diphtheria before they go to bed on the first day that they are called. Then every case which dies within 24 hours of the injection must be thrown out of the reports, and every case in which the antitoxin is administered after the fourth day must be placed in a separate category. Another mistake, commonly made in the administration, is the insufficient dose employed. A certain dose often saves the patient, whereas that same quantity given in several injections on succeeding days would not accomplish the same result. Why should we give a second injection? We can only immunize the patient against the further ravages of the disease after 24 hours. It does not impart a particle of strength to the patient, nor does it repair the damage done to the highly organized structures, especially those of the kidneys and nerves. It is of service to the patient only indirectly, by establishing early convalescence, preventing further ravages of the disease, and leaving the reconstructive power of the system in a state where it can repair the damage already done.

Dr. Love makes a plea for ten years to determine the merits of this remedy. Why not wait twenty? Speaker thought that statistics have done for antitoxin all that statistics can ever do, and we should cease to look at them any longer. There is no reason for any further delay or doubt about this subject, and we should give our unqualified support to antitoxin. Speaker offered to demonstrate the use of the remedy to any doctor who may still be in doubt as to its efficiency, and promised to show a convalescent patient twenty-four hours after the injection, unless it be a case of mixed infection, or the patient die within twenty-four of an overwhelming toxemia.

DR. JORDAN.—Don't you repeat the operation at all?

DR. SAUNDERS said that he never does, unless he had reason to believe he had made a mistake in the dose or a doubt about the strength of the antitoxin existed. In his early experience, however, he gave repeated injections, because he did not know what the dose was. He had established the fact that while it does cure at times, one bottle of Behring's No. 2 often fails. He had seen one case in which Behring's No. 2 did not have the least effect on the disease, and in two other cases, seen in consultation, one of which died and the other almost died, two bottles of Behring's No. 2 were used on successive days. Of course, paralysis can not always be prevented, but 4000 units, administered at once, will often accomplish this result. A bottle of Behring's No. 3, 1500 units, is sufficient in many cases. Speaker aims to inject 2000 units at least, in every case of a child of 7 years or over, but finds 1000 units sufficient in an in-

fant. Adults, as a rule, do not require more than children 6 or 7 years of age.

During the last five months speaker has been in the habit of using pilocarpine in conjunction with the antitoxin. We all know what a sensation was created by Guttman in 1881, by advocating the use of pilocarpine in diphtheria, and how it was discovered later that it is a dangerous drug, the patients dying of heart failure and pulmonary edema. Speaker at that time did not adopt the treatment. Pilocarpine stimulates the secretion of urea and urine of a specific gravity of 1007 becomes normal, and the specific gravity rises to 1020. His object in giving it now is to assist in the elimination of the poison for the first twenty four hours, until the antitoxin shall have acted. It is given to the point of salivation and this effect is maintained until the drug is discontinued entirely. One-quarter grain of the muriate is allowed for an adult, whilst children frequently bear a double proportionate dose, and rapidly become accustomed to the drug. He usually begins with half a teaspoonful of a solution, increasing the dose at each administration at half-hour intervals, until the patient becomes salivated. This treatment seems to assist the action of the antitoxin; the good results appear much earlier and the toxemic symptoms disappear rapidly.

A case, illustrative of the good effects of this combined treatment, was seen in consultation with Dr. McCandless. The temperature was 104° F., the pulse 160, and the eye balls were oscillating and muscles twitching, so much so, that the possibility of convulsions supervening was explained to the mother, and her attention directed to the fact that the antitoxin would not be the cause of them. This complication has been unjustly attributed to the antitoxin, whereas, with a little more care, much misunderstanding could be prevented. The antitoxin was injected at one o'clock at night. Pilocarpine was administered hypodermically at the same time, and repeated every hour by the mouth until salivation. The following morning the temperature had fallen to 101° and all the threatening symptoms had disappeared. That afternoon the temperature was normal; the child was sitting up in bed eating bread and butter, and it convalesced from that time on. This, of course, was much earlier than the symptoms could have been relieved by antitoxin alone.

After convalescence begins, within 18 to 36 hours, speaker administers large doses of strychnine and iron, and he has had no severe cases of paralysis. Of course, he uses no antiseptics, except peroxide of hydrogen or Loeffler's tolual solution to the throat.

On the whole, since he has been using antitoxin in diphtheria, the results have been entirely different from those he was accustomed to before employing it.

Dr. I. N. Love thought that Dr. Bribach had misinterpreted the position taken in the essay when he describes it as antagonistic to the remedy. Speaker's position is defined in the fifth conclusion, and he clearly stated that his experience during the past three months justified a much more favorable opinion of the remedy.

This conclusion is based on a number of cases reported in the paper, but which he has not read, fearing that the reading could be of little interest.

The opinion and remarks of Dr. Saunders are of great importance, and speaker was glad to note a conservative tendency in the doctor's practice. The use of the constitutional remedy, pilocarpine, in conjunction with antitoxin, is valuable in the direction of elimination. He had used it a number of years ago in the treatment of scarlet fever, diphtheria, etc., and had had occasion to observe its depressing effect upon the heart. He is disposed to use it, though with great care, as it is one of the best eliminants at our disposal.

The main point which speaker endeavored to make in his paper, is the exercise of care in making up our own records. He agrees with Dr. Saunders, that one sees, one knows, but one must have care that one does not misinterpret the light. There is a risk of becoming so impressed with some particular thing that one becomes almost blinded to all other things. We would endeavor to present matters in a fair light, and get together to discuss them in a conservative, deliberate manner.

The majority of cases, seen by speaker during the past ten months, occurred in consultation. He had some 90 cases of throat trouble, and only about ten per cent were true diphtheria. The majority were cases of follicular tonsillitis. Thus, he was in consultation with a physician yesterday, who said that he had had 33 cases of diphtheria in the past weeks within a block or two of each other, and announced his wish of injecting antitoxin in the case under consideration. It looked like a case of follicular tonsillitis, the membrane, which was not well defined, could be wiped off, the glands were not much enlarged, and the child was in good condition, the temperature being 101.5 F.° Fifteen hundred units of Behring's serum was given, and 12 hours later a membrane, about the size of a quarter, had formed and the diagnosis of diphtheria was assented to. Within 24 hours the membrane had cleared off, but the local application of bichloride of mercury was insisted upon. As to this latter point, speaker said he had seen very few physicians who were willing to use antitoxin exclusively. Dr. Kenyon is the only one who holds that the use of bichloride of mercury is antagonistic to the antitoxin.

Dr. SAUNDERS.—This was found in the clinics of Berlin; it is not his own observation.

Dr. Love, when speaking of the pendulum going too far, meant that we are going to the other extreme. We are probably on the eve of a great revolution in therapeutics, and the best results will be secured by calm, cool judgment, not permitting ourselves to get fanatical or too enthusiastic.

Mrs. A. R. Aspinwall, of Pittsburg, who died in Edinburgh, Scotland, last December, left her entire estate, estimated at about \$3,000,000, to the Hospital of the Protestant Episcopal Church, Philadelphia.

ABSTRACTS

SURGERY.

Subphrenic Abscess.—Only a few years have elapsed since subphrenic abscess has claimed a place in medical literature. Von Volkmann, as early as 1879, showed that abscesses below the diaphragm could be reached and cured by the knife. From 1879 to 1890, only 28 operations were reported, while between 1890 and 1893, 32 operations were reported. The record has since risen to 179 cases. Subphrenic abscesses are divided into intraperitoneal and extraperitoneal. In the second variety, the abscess wall may not be formed in part of peritoneum. A characteristic feature of the extraperitoneal form is its greater tendency to perforate into the pleural cavity. Extraperitoneal abscesses are most frequently found on the right side, which is natural, as their source has been not infrequently traced to the ileo-cecal region. In subphrenic pyopneumothorax, on deep percussion, the lung gives resonance instead of liver dullness on the right side, and absence of respiratory murmur from the third rib downward. There is no vesicular element in the lower part of the right thorax, and succussion can be elicited by shaking the patient. The heart will be displaced to one side. Exploratory puncture reveals pus. The history is often an important guide as to the location of the abscess. There is no history of cough or expectoration in cases of subphrenic abscess. It is sometimes impossible to distinguish an encysted pleuritic effusion from a subphrenic abscess. The motions of the exploring needle introduced into the abscess have been regarded by Furbringer as diagnostic; but it can not be said that the presence or absence of these motions are of diagnostic value, for the needle may be caught in the diaphragm, the function of which is greatly impaired in this condition. The usual aseptic precautions should be taken in performing exploratory puncture, and several punctures should be made if the first is negative. My experience leads me to the conclusion that prognosis of subphrenic abscess, except that of malignant origin, depends almost entirely upon early diagnosis. I have lost none of the four cases upon which I have operated. This is due to the favorable etiology of these particular cases and the early date of the operation. The mortality of 50 per cent, as stated by Maydl, is, however, much too high. Spontaneous perforation may take place, but this is rare. The presence of the pneumococcus in subphrenic abscess indicates a pneumonic origin. It should be remembered that in pyothorax the presence of this coccus indicates a more favorable prognosis than is usual in such cases. Early operative interference in cases of subphrenic abscess will surely very decidedly reduce the mortality. By far the greater number of subphrenic abscesses are the result of pathological processes in the

stomach. Most of the cases point to simple ulcer of the stomach as the etiological factor. Subphrenic abscesses are more apt to rise from perforation of the cecum or ascending colon than from the ileum. It is not likely that typhoid fever ulcers are responsible for the development of subphrenic abscesses. The echinococcus is, in rare instances, the cause. The anatomical relations of the kidneys gives them an important relation to these abscesses. The left kidney being at a higher level, subphrenic abscess from this source is more common on the left side. If the abscess occupies the whole anterior or posterior surface of the kidney, it is said that there are generally swelling, pain and tenderness, and edema of the abdomen; but in one of my cases scarcely any one of these local signs was present. There are some subphrenic abscesses of true thoracic origin. Of nine cases reported in literature, one case recovered spontaneously by perforation into the gut, one after surgical operation, and three died with, and four without surgical interference. Wounds of the diaphragmatic space may occasionally produce subphrenic abscess. Such wounds are usually produced by bullets. Subphrenic abscess may originate from an abscess in an adjacent organ. In cases of subphrenic abscess perforating into the pleura, the symptoms are intense pain, rapidly developing dyspnea and collapse.

In the treatment of subphrenic abscess, a wide opening should be made; and this can, as a rule, be obtained by resorting to resection of a portion of a rib, as subphrenic abscess is generally within the extent of the ribs. In subphrenic abscess the aspirating power of the diaphragm is greatly impaired, and the diaphragm is pushed up so high as to have its summit often in permanent contact with the costal pleura. When alarming symptoms, due to pneumothorax occur after exposure of the pleural sac, the final incision may be deferred until the follow day. I do not see, moreover, why the pleura should be more likely to become infected than any other part of the body. As a rule, I prefer to make the incision in the mid-axillary line between the eighth and tenth ribs.—Carl Beck in *Amer. Med.-Surg. Bulletin*.

NOTES : AND : ITEMS

Aphorisms.—In surgery and summer drinks cleanliness and coolness are the chief requisites. Opiates in infancy and depressants in old age may be commended for the slight expense that they entail on the wise physician. Traction must not be exerted on the cord with a vigor approaching its use on the lower extremity of a sick patient. Of all things, avert death if you can. There is no mileage to the cemetery, and you can not expect or wish your deceased patient to recommend his companions to call upon you. Your patient's good is

the first consideration. The cure of his disease, alleviation of his pain, his general betterment. Your own advantage is secondary, but it is about as likely to follow as certain other secondary manifestations—*Ex.*

The Results of the Bacteriological Examinations of One Thousand Cases of Suspected Diphtheria have just been reported in the *British Medical Journal* by Drs. R. T. Hewlett and Harold Nolan. The writers state that the diphtheria bacillus was found in 587 cases, in 409 it was not found, and in 4 cases the organisms were not identified. Thus, in two-fifths of the cases sent in for investigation in London, diphtheria is not found.

Latent Cerebellar Abscess Due to Chronic Suppurative Otitis.—Monnier (*Arch. Internat. de Laryngol.*), describes a case in which, after an attack of influenza in a child aged 12, a chronic otorrhea suddenly ceased, and pain, fever and delirium supervened. The antrum and subdural space were opened, and pus evacuated from both, giving great immediate relief with descent of temperature to 37° C. Two nights later coma supervened, without paralysis, but with trismus such as to render swallowing very difficult. In spite of change of dressing and irrigation, death took place. A large abscess was found in the corresponding lobe of the cerebellum. The author draws the deduction that if, after trephining the antrum with amelioration of symptoms, cerebral disturbance comes on, in the absence of localizing signs the cerebellum should be explored.—*Brit. Med. Jour.*

Pseudo-Pertussis From a Foreign Body in the Larynx.—De Pradel (*Arch. Internat. de Laryngol.*) narrates a case in which he was called to see a child who had swallowed a small pebble which was not found. Next night the child had a typical attack of laryngismus stridulus, and for four months suffered from apparently severe whooping-cough. The other children escaped entirely, and the affection disappeared at once on the accidental expulsion of the small pebble during a severe attack which came on while the child was playing roughly with its father. The author thinks the stone must have been in the ventricle of the larynx, and that much suffering might have been spared if the hospital physician under whose care the child came had made a laryngoscope examination.—*Brit. Med. Jour.*

The Treatment of Sciatica by Compression.—In an abstract of an article from the *Bulletin medical de Paris*, which is published in the *Lyon medical*, the writer states that M. Negro has reported a hundred and thirteen cases of rebellious sciatica in which this new treatment has resulted in recovery. The procedure is as follows: The patient lies on his face with his legs extended and resting easily one against the other. The most painful spot is selected, the region where the nerve proceeds from the large sciatic opening. On its trunk both thumbs are applied and it is compressed

with the greatest possible force; at the same time slight lateral movements are made without changing the point of pressure or moderating its intensity. This takes from fifteen to twenty seconds, and is followed by an interval of twenty minutes' rest, when the procedure is repeated. After a second application, which is much less painful than the first, the patient is able to walk, and for several hours, or even a day, he may be free from pain.

In order to obtain complete recovery, says the author, this procedure should be practised about six times a day every two days, until the definite suppression of the neuralgia is obtained.—*New York Medical Journal.*

The Dr. L. Ch. Boisliniere Prize Essay Fund.—At a general meeting of the Medical Profession, held on January 13, 1898, the undersigned were appointed a committee to determine upon and institute some suitable memorial in honor of our lamented and revered colleague, Dr. L. Ch. Boisliniere, and to solicit subscriptions from physicians and the public at large, in order to properly accomplish this object.

After mature deliberation and free discussion, both in and out of the committee, as to the shape this memorial should take, it has been determined to found a Boisliniere Prize Essay, on some subject connected with obstetrics and gynecology, the award to be made triennially and to be open to the competition of regular physicians residing in the United States.

The committee believes that a memorial of this nature will not only keep in perpetual remembrance the name of our honored friend, but, also, in thus fostering medical science and encouraging talent and industry, we shall be working in his spirit and furthering objects that were always very near to his own heart.

The committee has also been very fortunate in obtaining the consent of the St. Louis Obstetrical and Gynecological Society to act as trustee for such sums as we may be able to secure, and this Association will also undertake the administration of the fund under the conditions set forth above.

Mr. W. H. Lee, President of the Merchants Laclede National Bank, has kindly agreed to assume the duties of Honorary Treasurer, and will duly acknowledge subscriptions. All checks should be made payable to Mr. Lee.

Committee: W. A. Hardaway, M.D., Chairman, E. H. Gregory, M.D., J. K. Bauduy, M.D., Jno. P. Bryson, M.D., Walter B. Dorsett, M.D., Secretary; E. S. Smith, M.D., J. Friedman, M.D.

Unprincipled Speculating Specialists.—Dr. L. A. Tourtellot, of Utica, N. Y., in a letter from Nice to the *Utica Observer*, says; "A large number of invalids are sent to the Riviera every year, and this leads me to notice an abuse not unknown in America, but which prevails to a far greater degree in Great Britain and on the Continent. It is that of a type of medical specialism which has lately been denounced in the strongest terms by the leading reviews, magazines

and newspapers in London and Paris as little better than an organized robbery of the sick in mind and body. The most noted of these specialists in the great capitals of Europe are known as consultants, chiefly, and by them invalids are sent, with unquestioned authority, to one of the several hundred health resorts on the Continent, where they are handed over to the local specialist, who remits a handsome fee to the consultant and proceeds to amuse and fleece his poor patient as long as possible. Finally, when hope and purse are alike exhausted, he is sent to another confederate, probably in another country, where a new diagnosis is made and a new treatment prescribed. This course is repeated until the patient, bankrupt in health and in pocket, is ordered home to die."—*Medical Record*.

Longevity and Activity.—Great men usually carry their full mental vigor and activity into old age—M. Chevreul, M. de Lesseps, Gladstone and Bismarck are evidences of this anthropological fact. Pius IX, although living in tempestuous times, reached a great age in full possession of all his faculties, and the dramatist Crebillon composed his last dramatic piece at 94, while Michel Angelo was still composing his great canvases at 98, and Titian at 90 still painted with all the vigor of his earlier years. The Austrian General Melas was still in the saddle and active at 89, and would have probably won Marengo but for the inopportune arrival of Desaix. The Venetian Doge Henry Dandolo, born at the beginning of the XIth century, who lost his eyesight when a young man while on an embassy to Constantinople, through the treachery of the Greek Emperor Manuel, was nevertheless subsequently raised to the highest office in the republic, managed successfully to conduct various wars, and at the advanced age of 83, in alliance with the French, besieged and captured Constantinople. Fontenelle was as gay-spirited at 98 as in his fortieth year, and the philosopher Newton worked away at his tasks at the age of 83 with the same ardor that animated his physical prime. Cornaro was as happy at 90 as at 50, and in far better health at the age of 95 than he had enjoyed at 30. These cases all tend to show the value and benefits to be derived from an actively cultivated brain in making a long life one of comfort and of usefulness to its owner. The brain and spirits need never grow old, even if our bodies will insist on getting rickety and in falling by the wayside, but an abstemious life will even drag that old body along to centenarian limits in a tolerable state of preservation and usefulness. The foregoing list can be lengthened out with an indefinite number of names, but it is sufficiently long to show what good spirits and an active brain will do to lighten up the weight of old age. When we contemplate the Doge Dandolo at 83 animating his troops from the deck of his galley, and the brave old blind king of Bohemia falling in the thickest of the fray at Crécy, it would seem as if there was no excuse for either physical, mental or moral decrepitude short of the age of fourscore and ten.—*National Popular Review*.

PUBLISHER'S DEPARTMENT.

ALBUMINURIA.—In conjunction with the usual remedies employed in such cases, Wine of Cod Liver Oil with Peptonate of Iron is highly recommended, as a tonic, and to diminish the anemia. Cascara Aromatic should be employed if there is a tendency to constipation.

RYMAN'S CERVIX MEDICATORS is an invention well worth your close investigation. They are both novel and useful. One idea of the Inventor was to produce an article where-with any lady could be easily taught to make direct applications to the cervix uteri and have them remain in contact with the affected part as long as necessary. Another one was, to keep the uterine channel dilated and at the same time thoroughly drained, etc. They are easy to introduce, so light that they can be worn continually between the monthly periods without inconvenience or harm. Write for prices, etc., to H. M. Ryman, 53 Maiden Lane, New York City, and mention the *MEDICAL REVIEW*.

A PHYSICIAN'S OPINION OF THE CHRISTY SADDLE.—The following is an extract taken from a letter from Dr. Wm. S. Cheesman, of Auburn, N. Y.:

'I want to add that I have been recommending the Christy Saddle freely to my patients, particularly ladies. It is much the best saddle in the market for them. Our medical journals are constantly full of articles on the medical aspects of bicycling, and all writers on this topic bewail the lack of some suitable saddle which will touch the body only on the bones of support. I have called the attention of many doctors to the saddle, but none had ever seen it, and all at once recognized its merits and ordered one for their own use.

[Signed]

WM. S. CHEESMAN, M.D."

AN ADDITION TO THE MATERIA MEDICA OF GOUT.—There is probably no subject that has engaged the attention of clinicians to a greater extent than that of the pathology and therapeutics of gout. Every now and then a new theory as to its pathology is brought forward, and new lines of treatment are suggested. The most plausible and widely accepted theory of gout is that there is present in this disease an excess of uric acid in the blood and other fluids of the body, and that the various symptoms are due to the injurious action of the substance upon the different tissues, especially the structures of the joints. Looked at from this point of view the treatment would consist firstly in preventing the excessive formation of uric acid in the system by regulation of the organs of digestion and assimilation. To this end, a proper system of diet, exercise and other hygienic measures are essential. In the second place an effort should be made to increase the solubility of the uric acid in the blood and other fluids and thereby prevent its deposition in the tissues, chiefly in the form of urate of sodium. The remedies suggested for this purpose have hitherto chiefly comprised the alkalies and mineral waters containing them, but lately a remedy known as Lycetol has been introduced which has thus far proved an excellent uric acid solvent. Its favorable action is readily explained by reference to its chemical constitution—it consists of Piperazine, the well-known uric solvent in combination with tartaric acid which becomes an alkaline salt in the blood. Lycetol given in doses of 20 to 30 grains daily in abundance of water at once promotes diuresis in gouty cases and greatly increases the elimination of uric acid by the kidneys, its administration being often followed by a discharge of uric acid gravel in the urine. Its pleasant taste and freedom from irritating effects on the digestive apparatus are also valuable features, since many of these patients suffer from gastric disturbances and are unfavorably affected by the alkaline treatment.

MEDICAL REVIEW,

A WEEKLY JOURNAL OF MEDICINE AND SURGERY

VOL. XXXIII

ST. LOUIS, MARCH 21, 1896.

NO. 12

ORIGINAL ARTICLES

The Trend of Modern Therapy.

BY THOMAS OSMOND SUMMERS, M.A., M.D., F.R.S.C.,
LONDON, ETC

Read before the St. Louis Medical Society, February 15, 1896.

The advance of therapeutic philosophy, under the pondrous developments of modern investigations, supported by the great improvements in instrumental appliances, has, by a natural or a moral process of effluorescence, thrown off a vast amount of empirical material which has to such an extent encumbered the pharmacal repertoire as to make the so called science of pharmacy a laughing stock in the eyes of the thinking laity. The Baconian system of a posteriori procedure, as applied to medicine and surgery, is, without doubt, grand in design and prolific in result. But if we are to found our therapeutic philosophy upon a basis of scientific fact we must go behind empiricism for our formula of development.

For many years the tendency of all therapy has been in the direction of pathological indication, without reference to the fundamental physiological indication, without reference to the fundamental physiological principles which lie at the foundation of all functional activity. Later on, closer analysis of biological, physiological and pathological processes, under the brighter light and broader view of modern methods, has shown the fallacy of such a philosophical process as applied to medicine and surgery, and has established the only true principle of therapy as founded upon the physiological processes—the variations from which constitute the whole of pathology. The normal or natural variation from physiological manifestation or development is the encroachment of the inorganic elements of the organism upon the organic, which latter represent the functional activity of the body.

The great singer of Israel, in the ninetieth Psalm, has given us—even at that early date—a dynamical equivalent of nutritive function when he declared that "The days of our years are three-score years and ten, and if, by reason of strength, they be four score years, yet is

their strength, labor and sorrow, for it is soon out off and we fly away."

The investigations in the line of modern therapy are conducted, however, upon the firmly established principle that Nature is her own "guide, philosopher and friend." No one who has any knowledge of physiological processes or faith in physiological laws can, for a moment, question the fact that there are principles in the organisms which are in themselves absolutely antagonistic to—we might go even further and say absolutely destructive of—the thousands of toxic agents which pour into the body at every breath and touch, with Upas power of poison, the individual tissue cell at every pulse throb. What are these agents of resistance that have for so long a time eluded the grasp of the analyst and the keen eye of the microscopist? They are to be found in those vital units of the organism known as leucocytes or white blood-corpuscles of the blood. The conversion into tissue through vital processes is perhaps the most wonderful phenomenon presented to the human mind. It would be grossly absurd to attempt an explanation of the principles of affinity which govern the elective assimilation of tissue pabules, nor is this indeed the province of physiology. It belongs to transcendentalism, and has no practical significance in the eyes of those whose sole mission it is to study processes and relations. The real substance of material things must ever remain utterly inexplicable. With the ultimate morphological analysis of cellular elements, physiological science must end. But this admission does not shut us out from the determination of that relationship which exist between the vital units of the organism and the functions which they express. To become assimilable, all proteids must be cellulized, i. e., they must receive that molecular impress which they get by mingling with the blastema under the influence of the active nucleus. The change which goes on is therefore the elaboration of a vitalized or cellulized substance, which is capable of entering at once into tissue as soon as it meets the various cells which have the power of selecting the material necessary to the building of the particular tissue represented by such cell. This primal cellulized pabulum is therefore very appropriately called nuclein, and when operated upon by the individual tissue cell it is called protonuclein, because it is then the distinct primal tissue pabulum of the structure represented by that cell.

It is thus seen that all tissue pabulum must first be

reduced to nuclein by the leucocyte. It is, therefore, clear that if there is a depressed vital condition of the leucocyte, or if its nuclear activity has been arrested by pathological influences of any kind, the whole organism will suffer what might be termed tissue hunger, for no assimilation can take place unless the pabulum is first converted into nuclein by the leucocyte.

Not only, however, has the leucocyte this distinct power of tissue building, by rendering all pabulum assimilable; but, just as it takes up proteids to convert them into nuclein, so does it take up all germs of disease which may enter the circulation, and either destroy them entirely, or so disturb their molecular activity as to render them innocuous. This action resembles, or rather it would be more scientifically accurate to say, is a perfect analogue of that process which is observed in the protozoon where certain weaker organisms are absorbed by the stronger, by a process of involution as it were, of the membrane constituting the outer envelope of its plasmic material or blastema. Even in vegetable life we have the example of the *Dionea*.

If the great battle between health and disease in the organism, the stronger germ—the one possessing the greater cellular activity—will be the one to survive. The phagocytic act is, after all, an osmotic process, and is governed upon the same physical principle which controls the diffusion of fluids in osmosis. Between all cellular bodies there is a distinct affinity, and when floating in the same medium they come together wall to wall, battle ax to battle ax, in the mighty struggle for existence, and the survival of the fittest runs through filmy forms of microscopic life with the same inexorable certainty of fulfillment as in the highest of vertebral organisms. What is true of the highest, the most complicated of Nature's organisms followed to its last analysis, will be found to govern the lowest or embryonic forms. I can not but feel that this is a point of profound emphasis in our analysis of vital phenomena. It is the Ariadne thread, if you will permit the change of metaphor, that runs through the whole labyrinth of biological research. The march of physiological progress has had the vital unit of the organism for its goal; and where the searching eye of the anatomist reaches the horizon of his vision, the microscope pronounces the magical Open Sesame, and leads us further on into the very citadel of life itself. But this is too fascinating a field of contemplation for the practical scientist. We must content ourselves with things that are tangible and upon earth, as Prof. Tyndall would say, if only he were on earth to say it.

Let us go back, then, to the primordial cell unit of the animal organism, the white blood corpuscle—the leucocyte—which exists free in the blood vessels, and which, apart from certain gaseous and directly soluble inorganic elements, controls all of the ultimate vital phenomena of the animal organism. The little bodies are different from any other anatomical units of the body, in the fact that they are distinct cellular bodies, representing, in miniature, the complicate potentiality of

the several tissues of the organisms. Where do these bodies find their origin has for a long time been the *questo vexata* of physiological investigation. It is an easy matter to waive the answer to this question by assuming, with the transcendental physiologists of the past, that they are the involutes of the primordial fecundated ova, and that they are, so to speak, exfoliated in the differential processes of life by the lymphoid structure of the body. This is altogether unsatisfactory to the practical physiologist who observes in these bodies right beneath his object glass certain changes which appear to be directly connected with the maintainance of vitality in the organism at large. He finds upon close observation that they are of different morphological appearance; not only in different parts of the organism, but as they float in the blood current; he sees that while preserving the same general cell characteristics, they are so different in appearance of form and activity of movement as to require a minute observation to recognize them as belonging to the same histological character. One of these leucocytes, or white blood corpuscles, will be observed to be possessed of the very simplest elements necessary to constitute a cell—a membrane or wall, a blastema, a nucleus and nucleolus. In some of these, even the wall or membrane is either entirely absent or so very nebulous in character as not to be determined with the highest objective powers, so that there will frequently appear a nucleus and nucleolus surrounded by a closely coherent granular substance sustained alone by nuclear attraction without the envelope of any cell membrane whatever. Again, leucocytes are seen which several nuclei, and the enveloping membrane does not appear fully distended, but wabbles along down the great current of nutrition like a membranous sac, not distended to its full capacity, changing its shape continually as it squeezes through narrow channels or bumps up against the numerous shore projections of the sinuous river of life. Several nuclei are found in these, each holding its nucleolus surrounded by firmer blastema, all capable of expanding under the imbibition of pabulum from the blood plasma in which they float. It is this multi-nuclear leucocyte in which the first vital changes of the organism occur. When through chemical and physical changes the food so requiring it has been so manipulated by the digestive fluids as that it is rendered capable of passing through animal membranes—that is, to speak in strict physiological language, become converted into proteids—these are sucked into the interior of the multi-nuclear leucocyte, where it mingles with the blastema and swells out the membranous sac to its full capacity, while the cellular activity of the nucleus and nucleolus imparts to it a physiological impress; passing thus from chemistry to the realm of life, and this change so wrought in the proteids thus taken up is recognized in nuclein. It belongs no more to the outer world. From the macrocosm it has passed into the microcosm. It is now ready to be delivered up to the several tissues of the organism which it is destined to nourish at the command of each individual cell which

governs the distribution of pabulum to the structure of which it forms a representative part. Each leucocyte filled up, therefore, to its full capacity, its membrane or wall is put to its highest tension; and, as it pushes its way along the current in its effort to escape into the surrounding tissues, the most delicate pressure ruptures the cell wall, let out the nuclein, and with it the nuclei and nucleoli, giving us two corpuscles where we had but one, or, indeed, just as many as there nuclei and nucleoli contained within the original leucocyte. This increase in number, brought about by nuclein engorgement, is known as leucocytosis, and is nothing more nor less than cell proliferation.

Keeping now in mind the primal physiological fact that all assimilation is accomplished through the agency of the leucocyte, we are prepared to understand how it is that whenever any disease is manifested in the organism, either directly or by toxic germs, or by exhaustion of vitality in tissues overstrained, there is always found to be an increase of white blood corpuscles, because through them is accomplished all separation of wasted or destroyed tissues, and by them the pathological activity of toxic germs is destroyed or nullified.

The manner in which the latter is accomplished is the question which is absorbing modern physiological thought to the exclusion of almost every other subject of investigation. I have already referred to that peculiar faculty, inherent in all cells, of attaching themselves to one another, wall to wall, so that the vital activity of the one is absorbed by that of the other, leaving the field to the stronger of the two when the cloud of physiological battle has risen. This absorption of one cell into another, or absorption of vital activity of the one by the other, has been graphically termed phagocytic. Just here I must declare that I am unable to see the force of the objection, which has lately been brought forward by certain physiologists, to the use of this word. It is not all necessary that, because the physiological or pathological function of one cell is lost in that of another, we should, in speaking of such an action as phagocytic, or cell-eating process, imagine a mouth and teeth and all the paraphernalia of mastication, deglutition, etc. The result is the same, whether the pathological germ is swallowed, destroyed, or neutralized; so long as the cellular influence of the leucocyte is the agent which accomplished this, it is immaterial whether we use the term phagocytic literally or metaphorically; but, notwithstanding all the adverse criticism of the word used in this connection, there is none given us which more emphatically expresses the idea we wish to convey, and the difficulty of nomenclature is any how so great to lightly throw away so expressive a word, which, as bacteriologists and morphologists will admit, does certainly most vividly express the primordial conditions of which this is the physiological analogue.

Just upon this point it is convenient to take up this relation between the leucocytes and diseased conditions of the organism. One thing is certain, whenever toxic germs enter the body, there is at once an increment of

leucocytes. Another is equally certain, whenever there is a lesion or solution of continuity of tissue, there is an increased growth or proliferation of white blood corpuscles or leucocytes.

Now, then, it was not unreasonable to suppose, before the true cellular character of the leucocyte was understood, that an increment of leucocytes, being an ever constant condition of disease, should itself be a pathological factor, and there are many who are yet hard to convince that leucocythemia is not a distinct disease. But when we know the fact that the rush of leucocytes to a diseased part means the carrying of nutritive material in the form of nuclein, which is the great reparative substance of the body, we are disposed to look more favorably upon this most terribly maligned and misunderstood physiological agent; and it was with peculiar satisfaction that, after looking in vain for an expression to cover the exact relationship borne by nuclein, the product of the leucocyte, to the toxic material, the product of the toxic germ, I found, in Foster's latest *chef d'œuvre* of encyclopedic medical knowledge, the word phagocytoblast—the exact expression of its antagonism to disease. After all, it is the overwhelming of toxic material with nuclein, the physiological essence of the organism, upon which the therapeutic value of all antitoxins depends. The literature upon this subject is, of course, as yet very meagre; and, indeed, what has been written is vaguely stated, and oftentimes conflicting in itself when pushed to its last analysis.

There is but one conclusion, however, to which every theory leads up, and, fortunately for the progress of physiology, it is the practical one—of rendering resistance to disease by the exaltation of physiological activity of the cell units of the organism. With a sufficient quantity of nuclein poured into the channels of nutrition, the toxic material will necessarily become decellulized, for in this lies the principle of all artificial antitoxin. Is there anyone so fanatical upon the subject of disease cultures as to suppose that the element of disease is a desirable one if the same end may be reached without it? Does not the whole of the antitoxin theory rest upon the basis of overwhelming toxic influence by physiological conditions? The excitement of the specific disease in the organism must be *pari-passu* with the pouring out of cellulized pabulum. In the preparation of the serum from the immunized horse, the poison must never be above the physiological standard, or the animal itself perishes in the effort to render it immune. And when introduced into the blood of the infected person it must be used with the sole idea of so enveloping the toxic exudation—mark the work, for the pathology is the pathology of exudation with strong cellulized (vitalized, if you please) pabulum—as that the organism may become tolerant of its peculiar molecular activity; in short, the toxic material, by mingling with free nuclein, is brought close to the physiological organs or cell likeness and yields its power to the strongest cell activity.

We are in the midst of a great revolution—a revolu-

tion pregnant with results equally as operative in the progress of the universe as at any of those splendid political convulsions which have given birth to empires, dynasties and republics, and circled the brow of greatness with the laurel wreaths of glory. The eras of medicine have ever been the signal stations of history. Interwoven as is the science of physiology with all that tends to physical well-being of the universe, and renders possible the vast aggregation of humanity in the interest of commercial, scientific, political and even religious life, anything that marks an evolutionary change in the development of its principles must of necessity excite the gravest interest in the minds of all who have the good of humanity at heart. The doctrine of vaccination, as advanced by Jenner, at the time when pathology was in its infancy, was perhaps the greatest shock to the scientific mind ever received since the wedding of Cana, but the XIXth Century is confronted with a pathological principle which puts to the test the highest expressions of scientific faith.

It now remains for us to look into the action of the other role of Modern Therapy, the inorganic agents, which—at least most of them—pass in and out of the organism with silent footsteps, like well-trained slaves through a sultan's palace. For the most part crystalline in character, they are not dependent for assimilation upon digestive processes; but, being directly osmotic they enter at every point in the organism where such ingress is possible. They determine the osmotic relation of the blood plasma, and the newly discovered blood platelets are the direct result of such osmotic assimilation under the active stimulating agency of the leucocytes. For example, it is now fully established that the reaction or proportion at any time between the quantity of carbonates and phosphates in the blood will regulate the condition of its albumen. If the former are in physiological excess we shall have immediate albuminuria, which may be at once checked by the increase of the phosphatic salts. After a long series of experiments and observations, upon animals as well as patients, we have found that a concentrated solution of the phosphates, such as found in Melachol, will produce two very marvellous and constant effects (1) upon the consistency of the blood plasma, (2) upon the envelope or habitlivery assumed by nerve cells under the continued influence of narcotic drugs.

The first has already been referred to in controlling the regular density of the plasma and its solvent power over albumen.

The second is a very remarkable action. When the nerve cells become thoroughly saturated with the phosphate solution it will remove that peculiar adventitious environment which renders the cessation of the use of a drug, such as opium, next to a physical impossibility—certainly a moral one.

Without extending this paper beyond the limits of the evening, I simply direct your attention to these opening fields of a priori therapy, which are soon to be occupied by modern scientific medicine.

But, in conclusion, there is a point to which I would respectfully ask your attention, and that is in the mode of preparing and administering these essential principles of the organic and inorganic world. The rapid advance in laboratory apparatus places in the hands of the medical profession a possibility not hitherto enjoyed. The application of delicate machinery to the work of therapy has enabled us to reach results utterly beyond the reach or skill of the pharmacist behind the counter, and while we are free to admit that there is the danger of commercial fraud, yet, granted this removed, we can reach results by our medication never before realized or even possible by such processes to attain.

So long as the Aegid of medical ethics is thrown about and around these pharmaceutical products we have an increase of therapeutic power proportionate to the superiority of the electric elevated over the ancient tramway. Even now the ancient remedies are decomposing on the shelves of the pharmacist, and the car of medical progress is moving triumphantly over the dead empirical methods of the past system of therapy.

Some Facts Regarding the Condition of Our City Dairies.

BY HOWARD CARTER, M.D., ST. LOUIS, MO.,
City Milk Inspector.

Read before the St. Louis Medical Society, February 22, 1896.

MR. PRESIDENT AND MEMBERS OF THE ST. LOUIS MEDICAL SOCIETY—The subject of "The Milk Supply in Cities, and Its Relation to Public Health" is one which has not received the attention which its importance demands.

There is too much that is taken for granted, and this most indispensable of all foods is received upon its good name, which, in too many cases, is a cloak disguising the most insidious enemy to which humanity in cities is exposed. As regards its value as a wholesome and all-sufficient article of diet, I need not speak, except to add that, while containing all the elements necessary for our nutrition, it passes them in an equal degree as a culture medium for all varieties of pathogenic and other organisms. As a carrier of diseases the danger may occur in one of three ways:

1. By contamination of otherwise healthy milk by exposure.
2. By direct transmission of disease germs from the animal to the individual through the milk.
3. By the chemical change produced by the bacteria.

Of the first of these causes we have abundant and conclusive evidence. The epidemic of typhoid fever in Islington, in 1871, originated and was propagated by this means, the outbreak being confined to the customers of a certain dairyman whose vessels are washed with water from a contaminated well. If such results follow the mere washing of vessels, what may we expect where adulteration is practiced?

Dr. J. Lewis Smith reports several outbreaks of scarlet fever through the agency of milk which had been exposed in the living rooms of dairymen in whose families the disease was known to be present. So convincing is the evidence of this source of infection that no attempt has been made to refute or question it.

As regards the transmission of diphtheria through milk, we have less certainty. Of the numerous instances, quoted by Dr. Smith, all are confined to the domain of probability. None bear the weight of complete and perfect demonstration, and Osler holds that when diphtheria is conveyed through milk it is by accidental contamination, rather than by transmission of organisms from the cow itself.

Great as is the danger from accidental contamination, we are exposed to a greater, by the transmission of specific germs of diseases common to both animals and man, and of this class we have several that deserve particular attention. Among them are anthrax and scarlet fever. Bollinger successfully inoculated animals with milk taken from cows affected with anthrax, but reports no case where the disease was transmitted through its use as food. I have not encountered any other positive evidence of the presence of anthrax bacillus in milk, and am inclined to believe its occurrence in this secretion is rare. Were it always present we would hear more frequently of the inoculation of milkers. Last June I made microscopical examinations of milk taken from convalescing cows of a city dairy where anthrax prevailed to an alarming extent. None of the preparations showed the bacillus, and the cultures made from the same specimen, although containing numerous colonies of different varieties of bacteria, contained none of anthrax. Unfortunately for the experiment, I was not aware of the presence of the disease until all the cattle which succumbed to it were already dead.

Of practically greater danger is the transmission of scarlet fever from cows suffering from vesicular mammitis. The researches of Drs. Klein, Powers and Cameron, of London, in the well-known Hendon epidemic of scarlet fever, seen to establish the fact that the disease originated from the distribution of milk from a herd of cows which were, to a greater or less extent, affected with a peculiar disease of the udder and teats, and characterized further by desquamation. I know of no instance in the United States where this condition has prevailed or has been held responsible for the occurrence of the disease. A recent bulletin, issued by the U. S. Bureau of Agriculture, supports the claims of Klein and others, but there will always remain a doubt whether the disease disseminated was actually true scarlet fever, or some conditions resembling it.

There is another disease, compared to whose prevalence and facility of transmission through this source all others sink into insignificance, one that so stealthily insinuates itself upon the community. Upon the border line and perhaps resulting from one, sometimes from the other or from the combined influence of both, in all probability lays the obscure cause of the numerous

intestinal disorders which play such devastation among infants and children, more particularly in the summer months. The surrounding temperature is then more favorable for the rapid development of whatever germs may be present in milk. And, although the germs may not themselves be transmitted to the individual, yet their presence can produce such chemical changes that it alone may be capable of producing any of these effects. The mere fact that such cases yield more successfully to change of diet than to medication is proof sufficient of the cause, that its true origin is seldom suspected. It is tuberculosis. Regarding the relation between this disease and the milk supply, I quote the following comprehensive paragraph from Osler:

"The milk supply of an animal suffering from tuberculosis may contain the virus, and is capable of communicating the diseases, as shown by Bang, Gerlach, Bollinger and others. Striking illustrations of this are sometimes afforded in the lower animals. * * * The pig, for instance, of a tuberculous sow have been shown to present intestinal tuberculosis of the most exquisite form. Of late years the experimental proof has been entirely conclusive. It was formerly thought that the cow must present tuberculous diseases of the udder, but Ernst has shown that the bacilli may be present and the milk be infective in a large proportion of cases in which there is no tubercular mammitis; and observations made also by Hirschberg and others. This author states the interesting fact that the owner of a herd known to be tuberculous withdrew the milk from market and used it without boiling to fatten pigs, which, almost without exception, became tuberculous, so that the whole stock had to be slaughtered. There is no reason to believe that young children, or even adults, are less susceptible to the virus than calves or pigs, so that the danger from this source is real and serious. The great frequency of intestinal and mesenteric tuberculosis in children, no doubt, finds here its explanation, as shown by Woodhead's analysis of one hundred and twenty-seven cases of fatal tuberculosis in children, the mesenteric glands were involved in one hundred"—*"Principles and Practice of Medicine," W. Osler. 1894, p. 191.*

In this connection there is a subject more worthy of attention of the physician and the insurance company than the rational solution of the control of our milk supply. In this cause alone lies perhaps one of the greatest influences bearing upon the origin and propagation of tuberculosis. Considering the universal distribution of this disease and the continual moving about of our people, no one is exempt from exposure, be the local regulations ever so good. The extermination of tuberculosis is a matter of such universal importance that it should be taken in hand by our National Government. We squander millions for consumption cures; is it not time that some rational and practical steps be taken in the direction of prevention? *We have laws against the carrying of concealed weapons by individuals, but I tell you that every tuberculous cow is a whole arsenal*

of concealed weapons, a thousand times more deadly than the razor, the stiletto or the revolver.

The requisites for a pure and wholesome milk supply are few and simple. Healthy animals, sanitary surroundings, suitable sanitary measures for handling and distribution. As regards the first, all cows whose milk is used should be subjected to the tuberculin test, and all that react to it should be destroyed and their carcasses so disposed of that they can not be used for good. Reaction to tuberculin is now recognized by scientific veterinarians as equivalent to a demonstration of tuberculosis. An absolute jurisdiction over all the sources of supply, whether in city or country, by the health department, is the only solution of the second. Located within the corporate limits of our city there are some 400 dairies, harboring in the neighborhood of 9,000 cows. What are the sanitary conditions of these dairies. A small proportion are excellent, and compare favorably with any maintained in the country. The majority are unsanitary, and a large proportion of this majority I consider to be utterly unfit for the purpose and should not be tolerated in the thickly populated districts in which they exist. As regards the quality and health of the cows kept, I can state only what I see, but reserve my judgment. Such animals as are of recent purchase are invariably little more than skin and bone. After a few months of city life they put on a great amount of flesh, and also an unnecessary amount of manure. Dairymen who have spent their lives in the business tell me that they are healthy, and their experience as bovine clinicians is certainly greater than mine. I do not consider the presence of fat a necessary indication of health. Experienced and scientific veterinarians have told me that tuberculosis in cattle is not necessarily followed by emaciation, and it is a well-authenticated fact that this condition prevails most extensively among the aristocratic well-fed Jerseys and short horns.

As regards the matter of feed, and the merits or demerits of any particular variety upon the health of the animals, I can add nothing to the statement already made of the results of such feeding. Malt is used to a large extent, and also what is known as slop or swill, being the refuse of distilleries, and not garbage as is generally supposed. I do not know of any instance where these articles are used exclusively. They are used wet and are undoubtedly large milk producers, but I can not believe any animal to be healthy whose appetites have become so vitiated by reason of this food that it will not drink water. Nor can I agree that an animal, deprived of light, ventilation and exercise, is healthy, although our city dairymen argue to the contrary.

A Prohibitive Tax on Cigarettes.—The South Carolina House of Representatives, in keeping with its other vagaries, has passed a bill imposing a tax of twenty-five cents on each package of ten cigarettes sold in the State, with a proportionate tax on a larger number.

MEDICAL REVIEW.

EDITORIALS

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DEPARTMENT EDITORS:

DR. F. J. LUTZ, General Surgery.

DR. W. B. DORSETT, Gynecology and Obstetrics.

DR. E. C. RUNGE, General Medicine.

PUBLISHED UNDER THE AUSPICES OF THE
MEDICAL REVIEW ASSOCIATION

By O. H. DREYER.

YEARLY SUBSCRIPTION, \$3.50. SINGLE COPIES, 10 Cents.

TO CONTRIBUTORS AND CORRESPONDENTS.

All letters whether intended for publication or not must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of the meetings of their respective societies, and of officers elected.

Members of the profession who send us information of matters of general interest to our readers will be considered as doing them and us a favor, and we shall take pleasure in inserting the substance of such communications.

Communications, Medical Books for review, and all letters containing business communications or referring to the publication, subscription, or advertising department of the REVIEW, must be addressed to O. H. DREYER, Publisher 112 N. 4th Street, St. Louis.

Entered at the St. Louis Postoffice as Second-Class Matter.

The Meeting of the Missouri State Medical Association at Sedalia.

The annual meeting of the Missouri State Medical Association will take place May 6-8, at the pretty town of Sedalia. The usefulness of medical meetings in general and of meetings of State societies in particular is recognized by every member of the medical profession. However profitable and necessary national and international meetings may be, it is, above all, the meeting of the State Association which holds out the greatest attraction and practical benefit to the average physician. An exchange of ideas on subjects of mutual interest among physicians living in the different sections of the State usually promises to be of more mutual interest and profit than when the representatives of more distant States or countries congregate, although the latter meetings, too, have their special missions and highly useful qualities.

Medical meetings at home, in one's own State, have a right to expect an energetic mutual co-operation in matters pertaining to the welfare of the profession or the people at large. One of the burning questions in this State is the regulation of medical education in which the State Board of Health has made great and laudable efforts, but in the final settlement of which the voice of the majority of Missouri physicians should be heard, and for this purpose an excellent opportunity presents itself in the meeting of the State Medical Association. Another problem deserving the attention of the Association is the question of how to provide for an effective law for regulating the admission of medical expert testimony which is now agitating the minds of many physicians in this and other States.

A third timely subject which would be worthy of a general discussion is that of the most humane and, at the same time, practical method of executing murderers.

The last, and most important subject of all, is the present status of the antitoxin treatment of diphtheria.

It is true that the phenomenal success of reliable diphtheria antitoxin is a *fait accompli* to an extent that the expediency of treating diphtheria with this remedy is almost undebatable; but the results obtained and the observations made in this connection in the various parts of the State, in short, the comparing of notes, will be profitable and interesting.

There are many other subjects of general interest, the discussion of which would prove of much mutual benefit, and which we would be delighted to see announced on the programme. The latter we hope soon to be able to submit to our readers; it is being looked forward to by the St. Louis members of the profession with a great deal of expectancy.

Every portion of the State should be represented at the Sedalia meeting and every regular physician throughout the State should, as much as possible, co-operate in advancing the usefulness, interests and prestige of the Association.

A Wise Move—A Bill Abolishing the Office of Coroner.

A great deal of good and practical work has recently been done in medico-legal matters by the Medical Society of the State of New York. We have already alluded to the effort of that Society in bringing about a reform in the law of regulating expert testimony. A bill has also been prepared under its auspices abolishing the office of coroner when the present term of those holding the office shall have expired. This bill, which is to be presented to the State Legislature without delay, provides for the appointment by the appellate divisions of the Supreme Court of medical examiners and assistant medical examiners, four in each class, two of whom shall be an expert pathologist and an expert chemist respectively. The salaries of the principles are not to exceed \$5,000 a year, paid by the State,

while the counties and different appellate divisions of the Supreme Court throughout the State pay the assistant examiners. The examiners and their assistants are to have all the power and privileges which are granted to the present coroners.

Everybody is aware of the fact that under the present system, which appears to be the same in all the States, coroners are in most instances insufficiently prepared for their work. It is exceedingly rare, if not impossible, to find an expert pathologist and expert chemist in one and the same person. In fact, some coroners do not know the A B C of pathology, the very branch of medicine in which they, or their assistants, should be experts. The next branch of importance for the faithful discharge of the duties of the coroners' office is a thorough knowledge of chemistry and toxicology and a person with a special practical training in both is indispensable in many coroners' cases. It is, therefore, to be hoped that the Medical Society of the State of New York be successful in its reform endeavors and that every other State in the Union may adopt similar measures for the purpose of having the office of coroner represented in a manner that shall do justice to modern scientific progress and attainments.

The Effect of Roentgen's Rays Upon Pathogenic Bacteria.

Among all the speculative efforts of imagination as to the possibilities of usefulness of Roentgen's rays in the various branches of medicine the idea that, possibly, these rays might have a similar effect as sunlight upon the vitality of bacteria, i. e., of effectually destroying them, has repeatedly been expressed by medical men. The destruction of pathogenic germs by an exposure of the tissues to Roentgen's rays would have been a *fin de siècle* accomplishment curing, with one stroke, all infectious diseases in which no degenerative tissue changes have taken place. But Nature does not seem to allow herself to be robbed of her secrets in such an easy fashion, and it is probably best for mankind that she should yield her secrets by degrees and upon ardent, honest and persevering investigations only. It is the step-by-step advance which acts as a healthy gymnastic to the mind and which seems to mould character as well as intelligence of the human race. In spite of the most sanguine hopes of, no doubt, many a disciple of the healing art, the Roentgen ray appears to have not the slightest bacteriocidal property. This seems to be true, at least, in the case of diphtheria bacilli. Dr. W. H. Park, of the Bacteriological Laboratory of the New York Board of Health is reported of having subjected pure cultures of diphtheria bacilli to the direct effect of rays from a Crooke's tube for thirty minutes. Cultures were made both before and after the exposure, but no effect whatever was produced by the exposure. Further investigations have been promised which, we hope, will uproot our own pessimism in this direction.

Among the amusing extravagances of newspaper lore is the report of a statement of Tesla in which this well known and gifted electrician is claimed to have said that by means of the newly discovered rays ponderable matter, and, consequently, medicine may be transmitted directly through the tissues of the body. The advantage which quacks and cranks have taken of similar newspaper statements, is well known and a subject upon which it is superfluous to expatiate.

BOOK : REVIEWS

Books reviewed in this column may be obtained, post-paid, by addressing the publisher of this journal, and remitting the quoted price.

A Text-Book Upon the Pathogenic Bacteria for Students of Medicine and Physicians. By JOSEPH MCFARLAND, M.D., Demonstrator of Pathological Histology and Lecturer on Bacteriology in the Medical Department of the University of Pennsylvania, etc. With 113 Illustrations 1896 Philadelphia: W. B. Saunders. Price, \$2.50.

As a text-book this work is characterized by clearness of diction and practical arrangement of subjects. It treats exclusively of pathogenic bacteria, including only a description of some non pathogenic organisms which, owing to a close resemblance, might be confounded with certain pathogenic bacteria. Parasites, not belonging to the class of bacteria, have been omitted in order to avoid too excessive dimensions of the work. The print and illustrations are good and the book contains whatever is new and of most value to students as well as those practitioners who graduated before the development of bacteriology. The book conveys a concise account of the bacteriological technique and a brief description of the life history of the important pathogenic bacteria, as well as a description of the pathological lesions due to the invasion of bacteria. The work answers admirably the purpose for which it is intended.

Color-Vision and Color-Blindness. A Practical Manual for Railroad Surgeons. By J. ELLIS JENNINGS, M.D. (Univ. Penn.), Formerly Clinical Assistant Royal London Ophthalmic Hospital (Moorfields); Lecturer on Ophthalmoscopy and Chief of the Eye Clinic in the Beaumont Hospital Medical College; Ophthalmic and Aural Surgeon to the St. Louis Mullanphy and Methodist Deaconess Hospitals; Consulting Oculist to the Missouri, Kansas and Texas Railway System; Fellow of the British Laryngological and Rhinological Association; Secretary of the St. Louis Medical Society. Illustrated with one Colored Full-Page Plate and Twenty One

Photo-Engravings. Crown Octavo, 110 pages. Cloth, \$1.00 net. Philadelphia: The F. A. Davis Co., Publishers, 1914 and 1916 Cherry Street.

This work is a clear and concise compilation of what is known upon the interesting subject of color vision and color-blindness. The subject has been treated by the author in a fascinating, plain and comprehensive style which makes it a valuable book for those taking an interest in the subject without wishing to consult the more voluminous works on ophthalmology. The railroad surgeon, for whom, as its title implies, the work seems to be principally intended, will greatly appreciate this new addition in ophthalmic literature. The print, illustrations and general make up of the work are excellent, and we predict a large sale and general appreciation.

Scribner's Magazine.—Professor John Trowbridge, of Harvard University, was the first man in the United States to make a successful photograph by Roentgen's method. He has written for the April *Scribner's* a very graphic account, in popular language, of this wonderful discovery, and he illustrates it with a number of his own most successful experiments. He also will announce in the article an important discovery in regard to locating the exact *depth* at which a bullet is imbedded in human flesh.

CORRESPONDENCE

Tincture of Veratrum in Puerperal Convulsions.

Editor MEDICAL REVIEW.—While Dr. W. and myself were passing Mrs. B.'s she had us called in. She stated that she expected to be confined in about six days from that time and that her limbs and face were very much swollen. We prescribed magnesium sulph. and pot. bitartrate, to be taken twice daily. Before the medicine had time to relieve the edema she was taken with pains, which was about three hours after we left. Dr. Womack was sent for. When he arrived she was having convulsions. He gave her a hypodermic of Norwood's tincture of veratrum—fourteen drops—which partly relieved the spasms. After waiting about three hours he gave her another injection of about eight drops. The os was but slightly dilated. After waiting four or five hours he had Dr. M. and myself called in. The convulsions had stopped promptly after the second injection. Her pulse before the veratrum was given was 160 per minute. When we arrived her pulse was only 60 per minute, but very feeble. She was profoundly under the influence of the veratrum, the effect of which lasted about twelve or fourteen hours; but at the end of eight hours she had partly regained con-

sciousness. We examined and found the os in a dilatable condition. We gave her a little belladonna and nux vomica and by manipulating we managed to deliver, in a couple of hours, a baby girl which was still born; but by warm bathing, etc., we managed to resuscitate it. Several hours later, however, it was still in a bad condition owing, I think, to the absorption of the veratrum. When Dr. Womack first arrived he gave her a large dose of calomel which acted freely in about thirty-six hours. This is the fourth day since she was confined and she is doing unusually well. The swelling went down rapidly after the calomel and other medicine operated. She never had another convulsion after she was brought under the influence of the veratrum. The veratrum did not stop the contraction of the womb or seem to interfere in any way with the process of labor. Besides there was absolutely no pain connected with the contraction of the womb. The contractions after delivery were very feeble, but there was no hemorrhage.

Chapel Hill, Tenn.

DR. GARRET WHITE.

TRANSLATIONS.

BY EDGAR THOMPSON, M.D.

Cold Baths in Delirium Tremens. — The treatment of this acute and grave nervous complication of alcoholism is difficult and contingent. The prognosis is uncertain and death frequently terminates the scene. (M. Letulle in *La Presse Médicale*). The mortality is probably 50%. The author says that fever is the gravest sign, and if the temperature is persistently high, indicating a central nervous paralysis, the life of the patient is in danger. All the other symptoms point to a cerebro-spinal collapse. The vibrant delirium, the incoherent loquacity, the incessant muscular tremor, the insomnia, the profuse perspiration, all demonstrate the gravity of the situation.

During the perilous hours of the delirium when the functional harmony of the nerve centers is ruptured and all the physiological processes are suspended, but little can be done by internal medication.

The urgent need is the restoration of the equilibrium of the innumerable reflexes which are essential to life.

Alcohol must be given in large doses which will have a palliative affect at least.

Opium, on account of the cerebral congestion which it causes, is generally contra-indicated and is especially bad if the delirium is excessive.

Chloral, which must be given "larga manu," will not diminish the functional perturbations unless it causes a great brain anemia.

The author says his experience is inclined to teach him that most all the symptomatic treatments will arrest a moderate attack, but in a grave case the results are as uniformly negative.

Besides the fever and abolition of essential reflexes, the author says syncope often terminates the cycle of symptoms in this condition. To rapidly and thoroughly restore the nervous equilibrium and to calm the nerve centers, the author suggests the cold bath, not the simple douche, more or less prolonged, but the immersion of the entire body in water at a temperature of 64° F. The good effects are increased by the use of great cold on the head, as ice cups or showers of ice water. The author says this cold bath at 64° F. from 8 to 15 minutes, has produced, in two cases, remarkable results. The baths are to be repeated every two hours or oftener if necessary.

The two cases of the author were pronounced especially grave, and in each case the bath dispelled all the serious symptoms and recovery rapidly ensued.

The first case was a man 30 years old, with the following daily alcoholic capacity: Two ounces of rum on arising; some more rum at 9 A.M.; an absinthe drink at breakfast; a pint of wine at the mid-day meal; some more rum at 3 and 5 P.M., and a pint of wine at the evening meal. This habit he continued five years. When the patient came under the author's observation he was delirious; covered with sweat; there was great tremor and the temperature was 104°; skin was cyanotic and heart very weak. Morph., subcutaneously in large doses, had been given without, in the least, calming the tremor. Chloral in 75 grain doses had been equally impotent. It was determined to try the cold bath.

For two or three minutes after the patient was immersed the cyanosis became more marked and the perturbation of the patient increased. In six minutes a sudden change occurred. The patient became calm, seemed to awake from a dream. He demanded to know what was being done and resented the enforced plunge, which in ten minutes set him in a violent shivering. All excitation vanished and the patient drank, with great avidity, two large glasses of wine and asked to go to bed. After a few moments in bed the temperature became normal and the pulse calm. The bath was repeated on the return of any excitation.

After the bath a rather large alcoholic drink with 30 drops of laudanum is good.

The morning following the institution of the baths the patient showed signs of returning delirium, to meet which another bath was enforced, followed by one at noon and evening. On the third day the patient remained calm and he was pronounced convalescent. The alcohol and opium was continued in diminishing doses. The patient made a slow recovery similar to that of prolonged infectious diseases.

The second case was of similar gravity as the first, and was influenced in the same happy way by the baths. He was 30 years old; a professional alcoholic, who drank with his customers.

When seen by the author he was in a state of delirium. The pulse was small and compressible, beating at 112. Rectal temperature was 104°. The condition was

most grave and the cold bath was resorted to as an experimental "dernier resorte." The temperature of the water was 64°. When the patient was placed in the bath he became extremely violent and was restrained by force. In three minutes the patient suddenly became perfectly calm, and he remained so for two hours when another bath was given. The same course of baths and diminishing doses of alcohol and sedatives was carried out as in the first case. The patient slowly recovered.

The Action of Fasting and of a Meat and Vegetable Diet on the Duration of Elimination of Salt by the Kidneys.—The question of absorption and elimination of medicinal substances is one of the most important in therapeutics (*Wratch; La Presse Medicale*). It would be advantageous to know in what shape and manner the administered drugs are absorbed and laterly, eliminated. The latest researches on the subject are those of Debogorie-Mokriewitch which are reported in the above journals.

The author conducted his experiments with potassium iodide and sodium salicylate. The experiments were intended to determine the length of time of elimination by the kidneys of the two drugs, during a vegetable regime, a flesh regime and during fasting.

The experiments numbered 140 and adult persons and dogs were the subjects of the investigations.

The author gave the drugs to persons who were on a vegetable and animal diet respectively. He found that elimination was prolonged when the food was limited to vegetables. When he gave four grains of potassium iodide to the person on a vegetable diet he recognized the chemical reaction of the salt in the urine for fifty-one hours. The same amount was entirely eliminated in thirty-four hours by a person on a meat diet. The experiments with sodium salicylate gave the same results. Eight grains of the salt required twenty seven hours for elimination under the vegetable regime, while twenty-three hours was sufficient for the excretion under the meat diet.

The experiments on dogs gave the same results; that the vegetable diet prolonged the time of elimination.

The investigations conducted to determine the influence of fasting on elimination were interesting and showed that the time of elimination was greatly prolonged. One grain of iodide of potassium was eliminated in twenty-six hours by a dog on a flesh diet, while the salt was detected for fifty hours in the urine of a fasting dog. Six grains of sodium salicylate were eliminated in twenty-nine hours by a dog fed on meat, while one from whom food was withheld required thirty-four hours for the total excretion.

The author drew the following conclusions from his experiments.

1. That there is a close relation between the time of elimination of medicinal substances and the quality and quantity of foods.

2. The length of elimination is shorter with a meat diet than with a vegetable diet.

3. An increase in alimentation with its subsequent increased renal activity hastens the elimination.

4. Fasting prolongs, to a great degree, the elimination.

Tinnitus Aurium.—Miot and Herok classify the unusual sounds in the ears in two groups (*Bull. Med.; Revue Inter.*):

1. The noises which really exist in the ears or their neighborhood. They are called entotic and periotic sounds respectively.

2. The true tinniti or auditory sensations which have no apparent cause.

In the first class are many conditions. It may be an increased resonance of the ear or hyperesthesia of the auditory nerve, which make the individual more sensitive to sounds. The sounds may be due to an increased flow of blood through the ear. Muscular contraction and mucous plugs in the external ear cause noises also.

The authors divide the true tinniti into two groups:

- (a) The noises due to a lesion of the auditory apparatus.

- (b) The noises due to nervous diseases, mental disorders and reflexes, without any lesion of the ear organs.

Middle ear diseases cause tinnitus, especially in cases of circumscribed or diffuse otitis. In this case the tinnitus is caused by a hyperemia of the region.

In the middle ear various conditions of the tympanum and Eustachian tube give rise to tinnitus. Inflammation of the mucous membrane of the middle ear with secondary hyperemia of the labyrinth is a frequent cause.

Local applications of cold and local blood-letting combined with catheterization of the Eustachian tube and insufflations of medicinal vapors give the best results in this condition.

Catarrh of the middle ear causes tinnitus. Irrigations through the tube is the best treatment in this condition. If the discharge becomes very great it must be removed through an incision in the tympanum.

Chronic otitis media: This affection is a very common and persistent cause of tinnitus aurium, and the authors say the subjective noises resist all treatment.

Otorrhea from a tympanic or labyrinthine origin is a frequent cause of tinnitus and when the discharge is in the semi-circular canals, as in Menier's vertigo, the noises are extremely violent.

The tinniti caused by lesions without the auditory apparatus are of various kinds. In many diseases of the nervous system the subjective noises in the ears are premonitory or accompanying symptoms: apoplexy, cerebral anemia and congestion, cerebral inteneration due to arterio sclerosis in the aged, paralysis, etc., are ushered in by unusual noises in the ears.

Nicoti and Rabioli have described an auditory migraine.

In some mental diseases tinniti are prominent. False auditory perceptions are common in the insane. And in the same cases there are auditory hallucinations and confused noises.

The reflex tinniti are very numerous. They are caused by gastritis, gastralgia, dyspepsia, and derangements of other organs. The noises in the ears promptly cease when the proper treatment is instituted.

MEDICAL SOCIETIES

PROCEEDINGS OF THE ST. LOUIS MEDICAL SOCIETY.

W. H. FUCHS, M.D., EDITOR.

Stated Meeting, Saturday evening, February 22, 1895; the President, W. G. MOORE, M.D., in the Chair.

* *

DR. FRANK PARSONS NORBURY presented a patient suffering from an

Aortic Insufficiency.

The patient had been exhibited at most of the clinics during the past week and gives a rather interesting history. He is a Russian actor and was condemned to the mines of Siberia for taking part in a Nihilistic play. He remained there for some time, suffering great hardships, but finally escaped and came to this country. About two years ago he was treated for acute rheumatism in New York. This attack was complicated by endocarditis, which is at present in a chronic stage. His present condition was first clearly diagnosed by Dr. Corwin, a teacher of physical diagnosis in Chicago. Various diagnoses have been made in this city, including aortic insufficiency, aortic stenosis, mitral insufficiency and aortic aneurism.

There is present a peculiar musical sound, met with in rare cases. The hypertrophy of the heart is very marked and the impulse of the apex very pronounced. The usual sounds of an aortic insufficiency are present and are heard at the usual points. The sound has the character peculiar to a regurgitation, and not to a stenosis. The throbbing of the arteries is very evident and is especially marked in the carotid and radial, persisting in the latter place even when the arm is raised above the head, showing what is called the "Water-hammer" pulse. We have also that symptom to which Struempel calls attention, the transmission of the valvular sound down the femoral artery.

Speaker had seen a similar case, in which a post-mortem revealed a perforation of the semilunar valve. Of course, we could have the sound produced by any obstruction to the normal flow of blood, whether that be a small opening through the semilunar valve, a roughened condition of the valve or tendinous obstructions. The sound here is produced by a collision between the blood returning from the aorta and that entering the ventricle.

One of the greatest difficulties encountered in the

physical diagnosis of this case is to determine whether the abnormal murmur accompanies the systolic or the diastolic sound. After short, violent exercise it seems to be a diastolic murmur, whilst when the patient is at rest it is more of a systolic sound. This apparent discrepancy would lead one to suspect mitral insufficiency, in addition to the aortic lesion.

DR. HOWARD CARTER was inclined to support the diagnosis of aortic obstruction. As nearly as he could judge, the sound accompanies the first heart sound, but we also get a sound on the right side, towards the arch. He was inclined to believe that there is a mitral insufficiency, but not regurgitation, as the sound is not heard far back in this case as we would expect to find in a regurgitant condition. Where there is aortic regurgitation we usually have some of the same evidence that accompanies aneurism, namely, the sound is heard at the elbow.

DR. THOMAS O. SUMMERS thought that the sound was distinctly that of aneurism of the thoracic aorta. He thought he could distinctly hear the second sound of the heart, produced by the flapping back of the semilunar valve, above that of the aneurism.

* *

DR. HOWARD CARTER read a paper (see page 202), on **Some Facts Regarding the Condition of Our City Dairies,**

and presented some microscopic and macroscopic specimens of milk, obtained in the course of his examinations as City Milk Inspector.

He added, that in large creameries, located outside the city limits, where large quantities of milk are collected, machines, known as "separators," are used, and work with centrifugal force. The milk is first strained, poured into a receiver and then the machine is revolved, the heavier casein part going to the periphery and the cream to the center.

The macroscopic specimen presented showed the residuum after the milk and cream have been removed. The residuum contained cow manure, hair and various other foreign substances.

DR. A. H. MEISENBACH.—Have you ever detected the presence of tubercle bacilli in the milk?

DR. CARTER.—No, sir; it is an exceedingly difficult matter to demonstrate that; it has seldom been done.

* *

The discussion of Dr. I. N. Love's paper, "THE ANTITOXIN TREATMENT OF DIPHTHERIA FROM A CONSERVATIVE STANDPOINT," was resumed.

DR. LOVE called upon Dr. Summers to give his experience with antitoxin in diphtheria, he having made observations during his connection with the Board of Health of New York City.

DR. THOMAS O. SUMMERS said his connection with the Board of Health of New York was a rather peculiar one. It was at the time when the "antitoxin fever" was at its height, and he was then, by the courtesy of the Board, working upon the subject of nucleins. The

guinea pigs were housed in the "menagerie," as it was called, of the Board, down below the Criminal Court building, and there were hundreds of pigs for experimentation. At speaker's suggestion the nuclein was tested together with antitoxin. Twelve pigs were first injected with the toxins of diphtheria and all died. A second dozen was injected with the toxins, but in six the antitoxin was injected as an antidote, while in six others nuclein was used for the same purpose. One of the former and two of the latter died. The next experiment was conducted on a different principle, proto nuclein being fed in combination with the food, in addition to nuclein injections. The pigs of this set all recovered. The results were so positive that Dr. Park said he could not understand them. This was before the Board of Health had adopted the plan of manufacturing its own antitoxin, and were using Behring's product.

Speaker was urged by Dr. Winter at the time to publish the results of the experiments, but the courtesy of the Board had been such that speaker did not feel at liberty to bring them out in his paper, read before the Academy in New York. In the meantime Dr. Park said he was absolutely certain that protonuclein or nuclein of any character would not yield the same results as antitoxin, and he therefore conducted other experiments under his own observations. He said he did not understand the action, and placed a seal upon the two cages of pigs and injected the protonuclein under speaker's own observation. Several of those pigs died. Speaker could not say whether they had been properly fed or attended to. He did not charge any fraud upon the Board of Health of New York, but it is a strange thing that he should have any more magic touch upon those pigs than the man who manufactured the antitoxin.

DR. MUELLER had seen a score or more of cases of follicular tonsillitis during the past several months, but it had not been his fortune, or misfortune, to meet many cases of true diphtheria, so that he had not had much personal experience with antitoxin. One case, a boy, about 4 years of age, was seen by him in consultation last Sunday afternoon. There was an exudation on the right tonsil, dyspnea and other symptoms characteristic of laryngeal diphtheria. He counseled the immediate use of antitoxin, and consequently about 10 c.c. of Behring's No. 3 was given, followed by a like quantity the next morning. That afternoon cyanosis was marked; there was hardly any respiration and the child was in no way benefited by the injections, and the physician in charge was preparing to do an intubation. He was persuaded to try spraying of the throat with a solution of protonuclein. This was done every hour, and on the following morning respiration was much improved and convalescence had begun. Of course, it is possible that the antitoxin caused the improvement, although speaker was inclined to give the credit to the protonuclein.

DR. REMY STOFFEL had used the antitoxin up to June of last year in 26 cases with 4 deaths, and since that time in 34 cases with 2 deaths. In 2 of the fatal

cases the antitoxin was injected on the fourth day, but in the others it was used earlier. Taking all his experience into consideration, speaker concludes that antitoxin is a specific when given before the second day.

He had found albumen in the urine in about the same percentage of cases as before the introduction of antitoxin, although he pays more attention to this symptom at present than has been his custom heretofore. The average number of post diphtheritic paralysis is also not materially changed.

The microscopical examination made by the Board of Health had been of great assistance to him. Mistakes have been made in this department; cases having been reported as diphtheria which did not present the clinical evidence, but this was rather in the right direction. It is probably true that a positive diagnosis of diphtheria can not be made without the microscopic evidence, and we should be thankful for the efforts made by the Board of Health to supply this aid.

DR. FINLAY said he was not a "Doubting Thomas," and would administer antitoxin to his children if they should have diphtheria. Until two years ago he thought he could make a positive diagnosis of diphtheria by a microscopical examination, but he is not so certain of it now. Some investigators tell us that patients may have the Klebs Loeffler bacilli in their throats for days, weeks and months without developing diphtheria; while others declare that we may have a clinical picture of diphtheria without the Klebs Loeffler bacilli, and that it is then follicular tonsillitis. If these two conditions may exist in different individuals, why can not one patient have Klebs Loeffler bacilli in his throat and develop a follicular tonsillitis without having diphtheria? This simply emphasizes the difficulty of making a diagnosis.

DR. W. W. GRAVES took an optimistic view of antitoxin as a remedy in diphtheria. And he bases his views upon an experience of forty cases with but one death, and that resulted six hours after the injection. In this case the child was moribund when the antitoxin was given. Speaker was one of the first physicians in St. Louis to use it; he had used it in every case of true diphtheria coming under his observation and had never seen any ill effects, unless transient urticaria be considered a complication.

The difficulty in making a diagnosis is not as great as would appear from the statements of some of the speakers. While it is not well to rely entirely upon the evidence gleaned from a bacteriological examination, we are under obligations to the Board of Health for the efforts which have been, and are being made in this direction. There are certain clinical evidences which distinguish it entirely from follicular tonsillitis. In this latter condition the membrane never spreads beyond the tonsils, whereas in diphtheria it is liable to cover the whole or any part of the mucous membrane of the mouth and air passages. This evidence, together with the characteristic glandular enlargement, the high temperature and profound toxic symptoms is often sufficient to establish a diagnosis. Add to these clinical

features a confirmatory microscopical evidence, and there ought to be little difficulty in making a correct diagnosis. We sometimes have cases in which the clinical evidence is wanting in some respects and in which we are dependent for a diagnosis upon the microscopical examination. A case of this kind occurred in speaker's practice some time ago, in which no true diphtheritic membrane had developed, the mucous membrane having assumed a grayish hue. The diagnosis was here based upon the bacteriological evidence; antitoxin was administered and the child recovered in a short time.

The improvement in the case cited by Dr. Mueller, was probably due to the antitoxin, and not to the protonuclein spray, although the latter may have contributed towards the good result. In speaker's experience the good effects of antitoxin manifested themselves only 36 hours after an injection, and anybody who expects to see a marked effect within 24 hours will be doomed to disappointment.

Dr. Stoffel speaks of injecting antitoxin no later than the second day. That is almost impossible in most cases, as the physician is usually called in after the first few days of the attack, when the mother has tried home remedies for what she considered only a simple sore throat, to which children are generally subject. Speaker never had had an opportunity of injecting the antitoxin earlier than the third day at least.

He had never had a case of post-diphtheritic paralysis in his practice. That sounds like a pretty broad statement, but he attributes this result very largely to the use of liberal doses of strychnine from the beginning of the attack.

Local treatment, such as swabbing or spraying of the throat, in his opinion is of no value whatever. He never believed in it and has abandoned it altogether. This is not offered as an argument against diphtheria being a local disease in the beginning, but the toxic symptoms develop so soon that internal medication must be resorted to early if the disease is to be successfully combated. He had seen children, 3 or 4 years of age, firmly held by their nurses while the throat was being cleared off with bristle brushes or cotton swabs, and this was continued so long until the child became exhausted, or until new wounds were created in the mucous membrane and a more rapid absorption of the toxins of diphtheria was the result. He had never seen a case where he thought the local treatment did any good. The only chance for success lies in internal medication, and antitoxin comes as near performing miracles as anything we have in medicine.

DR. BENNO BRIBACH said that the difference of opinion brought out by the Society's endeavor to fix the status of this remedy leads him to briefly analyze and summarize the factors which may have been conducive in bringing about the different results. Of course, it is to be assumed that a certain degree of reliability is to be placed upon the report of the different observers; it is a matter of personal confidence in the men who make

them, and nothing short of proof of actual mistakes or misstatements will justify criticism. Personally, he is not obliged to pay any attention to these reports; his own experience has been sufficient to warrant a definite conclusion, without taking into consideration whether other reports are favorable or not. It may not be a general rule, but usually as a medical man advances in years he learns more to rely upon his own experience in preference to the statements of anybody else.

Some of the observers who have spoken may have been more careful than others; some may have been biased against the remedy; there may have been a difference in the quality of the remedy used, or applications may have been made which have been antagonistic to the action of the antitoxin; and some observers may have had the misfortune to get only virulent cases, while others had the good fortune to get mild ones. His own experience in former years led him to regard diphtheria as a fearfully fatal disease. The mortality was usually one in three or four. He had kept no record of the number of cases treated. Now, with antitoxin, the picture is entirely changed. In a total of 57 cases injected only three deaths occurred, and these all within six hours after the injection. It takes at least 24 hours for antitoxin to act, and if the three cases had been seen a few days earlier the percentage of recoveries would have been one hundred.

The position taken by Dr. Graves, with reference to the diagnosis, is correct, according to speaker's observation. When he can not arrive at a diagnosis from the clinical evidence he resorts to aid from the Health Department, and has found their efforts of great assistance. In those cases of primary laryngeal diphtheria, formerly known as true croup, the bacilli of diphtheria are always demonstrated and the cases are always to be considered as diphtheria.

Speaker had not used protonuclein, but he thinks the case cited by Dr. Mueller was cured by the antitoxin. He had used three kinds of antitoxin and had found them one about as good as the other.

In giving his experience last Saturday evening, Dr. Saunders mentioned the antagonistic action of certain germicides upon antitoxin when given in conjunction. Speaker had had no such complications, because, with the exception of the first six or seven cases, he had used no local or other internal treatment, and all the cases convalesced rapidly. Later on strychnine and iron was administered.

The doctor considered the discovery of the antitoxin the greatest advance made in the science of medicine since vaccination.

DR. S. POLLAK asked Dr. Bribach whether he had ever seen any ill effects from the antitoxin upon the kidneys. He had never used the remedy himself, but a neighboring doctor had injected it in a case in which the exudation extended down into the lungs and in which intubation had to be resorted to. Twelve hours after the injection the child died from anuria.

DR. BRIBACH had taken notice of the kidneys only in

the beginning of his investigations, because he had never seen any ill effects from antitoxin to these organs. The anuria was probably due to the diphtheria.

DR. A. R. KIEFFER had used the antitoxin in a case of diphtheria some time ago, and then injected the brother and sister of the patient with an immunizing dose. On the following day the sister became quite sick and a rash appeared which covered the entire back. This disappeared within a few hours. On the following day the brother became ill; the wrist, knee and hip joints became painful and very sensitive to touch, and there was evidence of involvement of the synovial membrane. A rash appeared which was similar to that of measles. It appeared in an orderly manner and was most abundant on the exposed portions of the surface of the body. He improved in three or four days, returned to school and then had another attack of the joint trouble. A day or two later the child that had had diphtheria became afflicted with the same rash and joint trouble, and also presented evidence of an involvement of the synovial membrane.

DR. BRIBACH called attention to the fact that joint troubles occur as complications of diphtheria, some French physician having reported four cases.

DR. FINLAY had an experience similar to that of Dr. Kieffer. He had injected the serum in three cases in one family. The mother had a patch in her throat which was supposed to be diphtheritic, and she was injected with Behring's No. 2. She had both the rash and joint trouble and is not yet relieved, although this was about two months ago.

DR. I. N. LOVE reiterated the statements made last Saturday, and again made a plea for conservatism, both in the use of the remedy and in reporting results obtained by it. He said he is still unconvinced as to the specificity of antitoxin in diphtheria, although his faith in the remedy had been strengthened the past three months. He had seen the remedy used more frequently during that time and had employed it more often himself.

At a meeting of the Alumni of the Bellevue Hospital, December 4, 1895, Dr. Brannon read a paper, published in the *New York Medical Journal*, February 15, in which he makes a plea for conservatism in the use of antitoxin. His reports show that of 108 cases of diphtheria treated with antitoxin on the first day there was a death rate of 10 per cent; death rate of 25 per cent in 130 cases where it was used on the second day; and a death rate of 34 per cent in 116 cases injected on the third day. It is difficult to make a diagnosis before the second or third day, and if antitoxin is injected before that time it must necessarily be given in many cases of follicular tonsillitis. In this way many of the apparently remarkable statistics of private observers may have been gathered.

ABSTRACTS

MEDICINE.

The Ways in Which Extensive Burns Affect the General System.—Drs. Boyer and Guinard (*Gazetta Medica di Roma*), submitted dogs to the action of boiling water, and carefully studied their condition. At first blood pressure rises, the respirations are accelerated, and the animal is violently agitated. This phase is only passing, and soon a rapid lowering of pressure, and of temperature and a slowing of respirations are noted.

Sonnenburg maintained that the depression was due to the rise in temperature of the blood, but these experiments seem to show that unless under exceptional circumstances this was not a factor in the results.

Immediate immersion of the scalded animal in cold water caused the suppression of the primary rise of the temperature, but seemed to add to the severity of the consequences of the burn.

The animal may fall into immediate collapse, the result of nervous "shock."

At the end of the first stage there comes a second more interesting one; the temperature rises, respiration remains tranquil, there is diarrhea, vomiting, restlessness, delirium, spasms, even convulsions, finally prostration. Meantime there develop multiple hyperemias all over the body, in the meninges, the brain, medulla, lungs, pleura, intestinal tract, liver, peritoneum, kidneys, etc.—hyperemias that become congestions, even inflammations. In a word, there are all the symptoms and lesions of the severe fevers, or of poisoning by toxins.

Many authorities have found in the organs, in the blood and especially in the urine, toxic substances which they have isolated and tested by inoculations. Drs. Boyer and Guinard have obtained similar results in studying the toxicity of the urine of dogs in whom one whole side of the body had been scalded. They have collected urine from such cases which killed rabbits when injected in the proportion of 147, 81, 70, 12 and even 9 cubic centimeters to each kilogramme of body weight.

The urine in these cases is diuretic, causes torpor, interrupted at times by spasms and convulsive phenomena. It also causes contraction of the pupil, exophthalmos and dyspnea.

With the urine of men who had been burned they succeeded in producing the same effects.

The organism of a burned person manufactures toxins in large quantity and of characteristically noxious quality. These are produced by tissue that is destroyed, or in process of destruction, by changes in the tissue juices, and especially by blood changes that have been noted by a number of authors.

For Pruritus try camphor and chloral diluted with four times its bulk of rose water.

As regards the asphyxia that is said to be produced by the blood changes, they found that the total quantity of gas in the blood was diminished, but the carbonic acid was diminished even more than the oxygen, showing that there was an arrest of metabolism, but not asphyxia.

They came to the following conclusions:

The burned person is first threatened with collapse, and then comes the danger of intoxication.

The indication is to combat the pain, the nervous shock, and the depression; the great contra indication is not to bring on a chill by the use of cold. The diffusible stimulants, ether and caffeine, are indicated, and there may be a question logically of transfusion or of the injection of artificial serum. If the blood pressure is sufficiently high, bleeding should be thought of, and this method is, perhaps, too timidly praised.

It will be very useful to provoke by every possible means an abundant diuresis; while the slowing of the processes of oxidation and the presence of the toxins call for the repeated use of inhalations of oxygen.—

University Medical Magazine.

SURGERY.

Surgical Aspects of Peritoneal Tuberculosis.—Alexis Thomson (*Practitioner*), points out that no adequate explanation has yet been put forward of the fact that peritoneal tuberculosis is benefitted by surgical exposure to an extent which does not obtain in similar affections of any other organ or tissue. The removal of ascitic fluid cannot be the essential factor, since, on the other hand, it may lead to no amelioration, while on the other, improvement may occur in cases in which no ascitic fluid was present, or in which, through its encystment or other causes, its removable was impossible. The admission of air into the peritoneal cavity is also an insufficient explanation, and T. believes that we must look to the surgical interference *per se*, for the true cause; the tissues and the bacilli meet on fairly equal terms in the peritoneum, and the operative handling just gives the former the necessary fillip which enables them to gain the mastery. Thomson recounts a case under the care of Professor Annandale in which extensive tuberculosis of the cecum, vermiform appendix, ileum, and the adjoining peritoneum and mesenteric glands (verified microscopically) disappeared entirely as the result of simple laparotomy and inspection. He quotes the recent experiments of Nannotti and Baciocchi, in which artificial peritoneal tuberculosis in dogs was in most cases cured by simple laparotomy. He deduces the following rules for treatment: Medical measures, particularly abdominal massage and copious and regular evacuation of the bowels, are first to have a fair (though not too prolonged) trial. If these fail, operation is indicated. If free fluid is present, it is to be evacuated, the wound being at once sutured if the fluid

is serous, a drainage tube being used for two or three days if purulent. Where the fluid is encysted or circumscribed by adhesions, operation is also very successful, but of this the author has no personal experience. Where, however, the fluid is slight in amount or absent, and adhesions and matting are the prominent features, further knowledge is still required both as to diagnosis and the indications for operative interference. Thomson has operated in 5 such cases; in 2, very successfully, for obstruction; in the other 3 for the tuberculous condition. He holds that surgical interference, though not so valuable as in ascitic cases, often exerts a favorable influence. The method is precisely the same as in tuberculous ascites, the interference being, however, limited to inspection of the parts. If the first incision does not open the peritoneal cavity (owing to the density of the adhesions), a second above the umbilicus is to be made, and if necessary a third. No drainage tube is to be used. The diagnosis may be materially assisted by a bimanual rectal examination.—*Brit. Med. Jour.*

OBSTETRICS AND GYNECOLOGY.

The Question of Puerperal Self Infection.—Dr. Charles Jewett, of Brooklyn, read a paper with this title at the recent annual meeting of the Medical Society of the State of New York. He said that ovarian abscess, pyosalpinx, suppuration of the vulvo vaginal glands, or other pus producing disease in or about the pelvis might be a source of puerperal fever, but the patient was then already an infected individual, and the infection was only an extension of the local process. Fortunately, this form of self-infection was rare. He said that three opinions had been prominently held regarding the question of whether or not a lying-in woman was liable to infection from bacterial products of her own vaginal secretions—viz.: 1. That the vaginal secretion might infect her, whether healthy or diseased. 2. That only pathological secretions could infect. 3. That vaginal bacteria had practically no part in the etiology of childbed fever. One observer had recently found strictly normal vaginal secretions in only fourteen per cent, of pregnant women; another maintained that pathogenic bacteria did not live in the vaginal mucus. In health the vaginal secretion was acid in reaction; in disease it was either alkaline, neutral, or only feebly acid. Kronig, of Leipsic, had made a series of experiments from which he had been led to conclude that the streptococcus was killed in two or three days by healthy vaginal secretion, and that clinically the genital canal might be considered to be aseptic. After quoting copiously from the opinions and practice of many obstetricians, the author announced the conclusion that there was no clinical proof that puerperal infection could occur from normal secretion; that all childbed infection in previously healthy women was by contact; and that the antepartum antiseptic douche was not ordinarily indicated—indeed was apt to be harmful.

Albuminuria in Puerperal Women.—Pajkull (*Upsala Lakareforenings Forhandlingar*), has made an experimental investigation of this subject. His method of investigation is as follows. The urine is drawn off immediately after delivery by the catheter (the parts round the urethral orifice having first been thoroughly cleansed), and is received in flasks kept for that purpose, and always carefully cleansed by himself. The flasks are then placed in an ice chest, whence he daily removes them. Before examination the urine is carefully filtered. He puts undiluted urine into one urine glass, and into another urine diluted with two or three volumes of distilled water, according to its concentration. He then uses Heller's test, allowing the acid to trickle down slowly through a funnel with its end drawn out. He thinks that the great confusion which has prevailed in the subject is due to the fact that most authors use nitric and acetic acids indifferently. He then proceeds to examine the urine for nucleo albumen, according to Morner's method. The urine is dialyzed in open basins at the temperature of the room. To the urine a few drops of chloroform have previously been added as an antiseptic. The dialysis takes about twenty-four hours; after this it is filtered. The strength of acetic acid used in the first experiment was 1 per cent, but later 0.5 per cent, or even weaker acid was used. After about twelve hours the precipitate sinks to the bottom; he then filters and neutralizes with caustic soda. He uses both Heller's test and boiling with acetic acid. According to Morner urine containing nucleo albumen gives two albumen rings. The nucleo-albumen should be precipitated by acetic acid, and if the final testing with nitric acid gives two rings, this shows that the dialysing had not lasted long enough. The process was then repeated more energetically with another portion of urine, until at the end Heller's test gave only one ring, or the filtrate contained no albumen at all. By this method the author examined urines of 30 cases taken at random from the public lying in hospital, and found nucleo albumen in all without exception, manifesting itself by the following results: (1) These urines gave two rings by Heller's test; (2) this was best seen in diluted urine; (3) by means of acetic acid in dialysed urine he could obtain an albuminous body which coagulated on boiling, was soluble in slight excess of acetic acid, and gave in addition tests one and two; but of these 30 cases no fewer than 12 contained other kinds of albumen. As albumen was found in every case the author considers it improbable that this might be due to accident or to a *status epidemicus*. He is therefore inclined to believe that every woman has, immediately after delivery, albumen in the urine. He also believes that the albuminuria of parturition is not exclusively a nucleo albuminuria, and that the latter is not associated with a genito urinary catarrh, if occurring alone. After the use of the centrifugal machine, in one series of cases where he uses 100 rotations of the wheel, he obtained casts in only 25 per cent, while in another series, in which he employed 400 rotations, he obtained them in

90 per cent. He considers that this points towards the albuminuria of parturition being due to the renal affection, and not, or at least not solely, to a genito urinary catarrh.—*Brit. Med. Jour.*

NOTES AND ITEMS

Barnes Medical College.—The annual commencement festivities of the local medical colleges began Tuesday evening with the exercises of the Barnes Medical College in Entertainment Hall. A large audience listened to able valedictions by Rev. Dr. John D. Vincil and Prof. J. T. Jelks on the part of the Board of Trustees and Faculty respectively, and witnessed the presentation of diplomas by Prof. C. H. Hughes. There were sixty-nine graduates.

Beaumont Hospital Medical College.—On Thursday evening occurred the commencement exercises of the Beaumont Hospital Medical College at Memorial Hall. A most enjoyable musicale and literary program was presented to a large and highly interested audience. An able and dignified valedictory address was delivered by Prof. Wm. G. Moore and diplomas were conferred on twenty-six graduates by Dr. Warren B. Outten, Dean of the Faculty.

The St. Petersburg School of Medicine for Women.—The Russian Government has assigned an annual grant, equivalent to about £10 000, to the Medical School for Women in St. Petersburg. The city undertakes to provide another £2,400, and private munificence has raised an endowment fund of £70,000. Preliminary courses are already being given, but another year must elapse before the school can be housed in its own buildings.—*Brit. Med. Jour.*

Vivisector and Philanthropist.—In speaking of Professor Ludwig, one of the most persistent of vivisectors, Dr. Mosso says: "Ludwig, the greatest of vivisectors, was president of Leipzig Society for the Protection of Animals, and remained to the last one of its most active members. Germany owes it to him that her horses and beasts of burden are now humanely treated. To him is due the awakening of the true humanitarian spirit toward the brute creation that culminated in the 'Union of German Societies for the Protection of Animals.'"

Bacteria—Dangers of Sand Filtering.—It is well known that the thickness of the layer of fine sand in filtering beds can not be reduced beyond a certain point without endangering the quality of the water that filters through. Dr. Kurth, of Bremen, has found in examining water filtered through a layer not sufficiently thick, that the number of bacteria was greatly increased, owing to the presence of a special microbe that could not be found in the water before it entered

the filter. These microbes must, therefore, have existed in the filtering material, and have been developed by the passage of water through it.—*Information.*

A Higher Standard in the University of Pennsylvania.—The movement to require a higher standard of general intelligence on the part of medical students has extended to the University of Pennsylvania. The proposition there is to provide for the gradual rising of the requirements for entrance until they are equal to those required for entrance into the arts and science courses of the college. It is proposed that this shall be done in the next three years, a decided advance being made each year. It is also proposed to discontinue the practice of admitting graduates of three-year schools to the fourth year of the medical course without examination. The radical changes have the hearty approval of the faculty.—*Information.*

Pathogenesis of Uremia.—Ajello and Paraveandalo (*Lo Sperim.*, an. 49, fasc 4), as the result of numerous experiments on animals, believe that uremia is closely related to the presence or absence of an internal renal secretion. Just as other glands have internal secretions, so has the kidney. The authors found that animals, after unilateral nephrectomy and without any treatment, died in from eight days to eleven months with albuminuria and cachexia. On the other hand, animals, after unilateral nephrectomy, when inoculated with renal juice prepared after the method of Brown-Sequard and D'Arsonval (20 c.cm. injected daily in dogs, 10 c.cm. in rabbits), did not present any albuminuria or cachexia, and lived in good health until killed for other experiments. After double nephrectomy without treatment the animals died in four to forty-eight hours; if treated with renal juice they lived from forty eight hours to four days and more. The implantation of kidneys, whether subcutaneously or in the peritoneal cavity, gave negative results.—*British Medical Journal.*

Massage in the Treatment of Sprains and Bruises.—The *Revue internationale de medecine et de chirurgie* contains an abstract of a paper which was read by Dr. Krafft, of Lausanne, before the Societe medicale de la Suisse romande. Dr. Krafft, says the writer, reported a hundred and three cases in which he had employed this treatment with excellent results. He stated that a careful toilet should be made of the region to be treated, and that the hands should be rubbed with a one per-cent solution of corrosive sublimate in glycerin, so that they may slip easily over the skin and thus prevent irritation. Before beginning massage a cold douche should be applied locally; afterwards prolonged effleurage is begun and continued by simple friction, which is made more energetic when following the course of the blood. Other manipulations, he said, such as kneading, were completely useless in cases of recent accidents. After massage, active and passive movements may be made. By this simple procedure, said Dr. Krafft, very satisfactory results might be obtained.—*New York Medical Journal.*

Bacteriological Work of Philadelphia Health Board.—The report of Dr. B. Meade Bolton, the chief of the bacteriological division of the Philadelphia Board of Health upon the work of his department from the time of its organization, May 20, 1895, to the end of last year, contains some interesting information. During this period 3,863 cultuers were made and studied, 215 with negative and 1,307 with positive results. The last occasioned 1,942 secondary cultures. Of the 1,207 cases diphtheria bacilli were found in 775. A clinical diagnosis was made by the attending physicians in 705 cases, of diphtheria in 557, which was confirmed in 502 by bacteriological examination. In 460 cases in which diphtheria bacilli were found the interval from the beginning of the disease to the disappearance of the bacilli varied from 7 to 96 days, the average being 28.3 days. The division has not yet issued diphtheria antitoxin for distribution because a serum of sufficient strength has not thus far been secured. According to the report of Dr. William M. Welch, the physician in charge of the Municipal Hospital, whose service is restricted to the care and treatment of contagious diseases, 1,297 patients were received during the year, 757 of whom suffered from diphtheria. The antitoxin was employed in the treatment of 302 of the last named, 85 of whom died, a mortality of 28.14 per cent. Among the cases treated without the antitoxin the mortality was 25.99 per cent.—*Medical Record.*

The Denver Health Department.—At the meeting of the Denver and Arapahoe Medical Society, January 28, 1896, the following resolutions were passed: "WHEREAS, The death rate in Denver has, within five years, been lowered about one-half; and WHEREAS, It can not be reasonably doubted that this extraordinary reduction has been due th the active and intelligent administration of the public health service; and

WHEREAS, The medical profession is in a position to assert the great aid to the prevention of disease and the saving of life afforded by the Health department through the application of modern methods, particularly as regards bacteriological procedures; be it

Resolved, That we, the Denver and Arapahoe Medical Society, view with alarm the crippling of the efficiency of the health department which must follow the reduction of its appropriation to a sum inadequate, not only to accomplish its desirable development but even to support its present staff of workers.

Elsner's Method of Early Bacteriologic Diagnosis of Typhoid Fever.—Elsner announces the discovery of a means to distinguish the typhoid bacillus in the evacuations and differentiate it from the bacillus coli in twenty-four to forty-eight hours (*Revue Internal de Med. et de Chir.*, January 25). He experimented with bouillon made from fish, from reptiles, beets and all kinds of vegetables, until he found a medium that will only make cultures of the typhoid b?

cillus and bacillus coli, and these cultures present such characteristics that they can be differentiated with the naked eye. His medium is prepared as follows: He boils gelatin with a decoction of potato and adds a triturated solution of soda in sufficient quantity to produce the same degree of acidity as in Holtz's medium. This he filters and sterilizes. The liquid is then poured into Erlenmeyer tubes and completed by the addition of iodid of potassium, in a ratio of 1 to 100. The culture is then made and poured out on plates. In twenty-four hours there are colonies of bacilli coli, and in forty-eight, the typhoid colonies develop, easily recognized as small transparent points, finely granulated, in the midst of the luxuriant brownish growth of the bacilli coli. This medium is exceedingly susceptible to cultures, experiments showing that the typhoid colonies would develop when the liquid only contained one part culture to eight thousand million parts liquid. Other scientists who have experimented with this new medium find it all that Elsner claims. They also call attention to the fact that the typhoid bacilli diminish in numbers as convalescence progresses, and if their numbers keep up, a relapse may be expected.—*Jour. Am. Med. Ass'n.*

To Ward off Malaria.—Since the disastrous Madagascar expedition, the French have been studying how to fight malaria in the countries where it prevails (*Bulletin of the Acad. de Med.*, January 21). The conclusions of a recent treatise on the subject by Dr. Mauriel are:

1. To administer quinine in preventive doses, .75 to 1 gram, at intervals of four or five days, is considered sufficient.

2. As the germs are in the atmosphere and are breathed into the lungs, troops must be commanded to keep their mouths shut when marching, as breathing air filtered through the nose, is much less dangerous.

3. Malarial districts, marshes, etc., must be avoided and habitations located 200 to 300 meters above them where possible. No work should be permitted in the heat of the day. Houses should be surrounded with trees at least their own height, and windows should be glazed to keep out the evening dew. Exposure to this dew must be strictly avoided as far as possible.

4. Europeans must not attempt to cultivate the ground in the intertropical regions. It is death to them, but does not injure negroes or other natives, who should be secured for this purpose. If Europeans respect this law of nature, their malarial attacks are much less frequent and rarely fatal. Even in hot beds of malaria, Europeans can conduct a campaign or carry on business enterprises if they obey the above regulations. Drainage, etc., will in time partially, if not wholly, reclaim the most malarial countries, but the Caucasian must always bear in mind that he can direct, oversee, practice a profession, fight, paint or do anything he chooses except till the soil. This treatment will soon be followed by another on preventive medicine.—*Jour. Amer. Med. Ass'n.*

PUBLISHER'S DEPARTMENT.

THE LIVES of untold thousand of children have been saved by Imperial Granum, and careful mothers are loud in their praises of this well-known food, and pharmacists can safely recommend it.—*Proceedings of the Illinois Pharmaceutical Association*, '87.

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MEDICAL REVIEW.

A WEEKLY JOURNAL OF MEDICINE AND SURGERY.

VOL. XXXIII.

ST. LOUIS, MARCH 28, 1896.

NO. 13.

ORIGINAL ARTICLES

The Effects of Tobacco Upon the Eye.

BY J. L. MINOR, M.D., MEMPHIS, TENN.

The effects of tobacco upon the eye may be *local* or *constitutional*.

Local, when the fumes of tobacco smoke, acting *directly* upon the eye, or *indirectly*, through rhinitis, produce a conjunctivitis. This form of trouble is not frequent, and it oftener happens, that a pre-existing inflammation is exaggerated, than new trouble created by it.

Constitutional, when systemic disturbance, from the use of tobacco, results in local symptoms or lesions in the eye.

Asthenopia, with its train of eye-pains and headaches, from weak muscles of accommodation and rotation, is thought, to be, not infrequently, due to the excessive use of tobacco.

It is, however, in the optic nerve itself, that most interest centers, when the effects of tobacco upon the eye are considered; *tobacco amblyopia* as it is called. The sufferer—ordinarily past middle age—an excessive user of tobacco, having chewed, smoked, or snuffed for a long time, and usually a free consumer of alcohol in some form, complains of dyspeptic symptoms, slight headache and dim vision. The blurred sight being first noticed, for the near, and later, for all distances, is always worse in bright lights. Progress is usually slow—requiring weeks or months to reach its final condition—of great impairment of sight, but rarely, absolute blindness.

The eye, to outward appearances, is normal. Vision is impaired, and the ability to recognize colors—usually red and green—is reduced or abolished. Taking the field of vision, it will be found that the reduction of sight and color-perception, is limited to a small area in the center of the field, the peripheral vision, or that in the outer portion of the field being unimpaired, both as to form and color-sense.

This retention of peripheral vision accounts for the

fact, that the pupil is not enlarged in this form of amblyopia as it is in others—and too, it causes the pupil to contract in bright light, thus cutting off illumination, and impairing sight—to dilate as the light is reduced, and give relatively better vision in dim light. The ophthalmoscope often shows nothing beyond slight cloudiness of the optic nerve; and again optic neuritis—if in the early stage—and more or less whiteness or atrophy, if in the later.

The prognosis is usually favorable if treatment is promptly instituted, and bad, if it is postponed.

The treatment consists, in giving up absolutely, the use of tobacco, and alcohol, the administration of iodide of potash and bichloride of mercury, in the early, and strychnia in the later stage, with such attention to the general condition as each case demands.

As to how tobacco produces this condition, opinion is greatly divided. Some think that the long continued presence of nicotine in the blood finally acts as an irritant to the nerves, and produces a low grade of inflammation—optic neuritis. The larger number have no definite views, but, simply accepting the dictum of their predecessors, declare tobacco to be the cause of amblyopia, whenever some other cause is not glaringly apparent.

Others claim that tobacco exerts no such action—and to this class I belong. For tobacco is capable of producing only functional derangement—not pathological lesion of any part of the nervous system.

I believe, however, that the long continued use of tobacco to excess, in some individuals, and its more limited use in those of certain idiosyncrasies, may so lower the tone of the nervous system, that its capacity for resisting disease is lessened, and it becomes a prey to conditions, which it would otherwise, withstand.

A study of the course of the optic nerve fibres shows, that those fibres which occupy the center of the nerve at the optic foramen, are destined for the macula lutea region of the retina—that portion affected in tobacco amblyopia. The optic nerve is supplied with blood vessels which enter the surface, and have their finest capillary plexuses, and therefore their most active interchange of fluids at the center. The anatomical relations of the nerve at the optic foramen are such as would favor interference with its lymph currents and vascular supply, and such interference would first affect the central fibres, and produce the symptoms of tobacco amblyopia.

Conditions capable of producing such interference are numerous, as, alcohol, exposure to cold, sexual excesses and disturbances, gastro-intestinal disorders, syphilis, rheumatism, intermittent and other fevers, blows upon the head, brain and spinal cord disease. Optic neuritis or atrophy often occur without assignable cause, when it is called idiopathic, and too, it affects men far more frequently than women.

All of these facts should be considered, and the causes eliminated, before a given case is ascribed to tobacco. If one looks into the literature of the subject, it will be found that this is not done.

Professor Senn's Clinic.

BY BYRON ROBINSON, CHICAGO.

Of the able galaxy of surgeons who have filled the Rush Surgical Chair—Brainard, Powell, Gunn, Parks—Senn is the most brilliant genius. He is a rare combination of a very practical worker, and yet he by no means discards the theoretic side of teaching. In practical application and vigorous theoretical views he resembles Lawson Tait. Senn is a man of vast conceptions. He grasps the whole domain of medicine and surgery with a master hand. Though he may not exhaust subjects like the slow, broad analysis of the philosopher Fenger, yet his brilliant generalization of subjects is attractive and practical. Senn is an eloquent clinician, an impressive teacher and a practical, conservative surgeon. He uses stately sentences and sesquipedalian words requiring a disciplined mind to fully comprehend. He excels as a diagnostician, quickly detecting the trend of pathologic processes. His prophecy in prognosis rests on past experience as the best prophets of the future are those of the past. Though born with superior powers, yet he has risen to fame through the genius of labor. Keenly practical, naturally suspicious of traditional views being imperfect, he sought confirmation by experimentation of natural phenomena. He saw that, "To the solid ground of Nature trusts the mind that builds for aye."

Senn holds the most magnificent clinic of the world. The late distinguished Billroth, the foremost surgeon of all the world, did not present such practical views in so short a time. But Billroth exhausted subjects, for I have heard him lecture three days on a scar. He was too ponderous and slow to enthuse an audience as Senn does. Senn's life and soul is in his clinic, and from the treasury of books and nature he has a mind stored with a rich array of wealthy thought. Nature's first and richest blessing to Dr. Senn was his physique, his enormous physical capacity for work, a body capable of almost any strain. A large heart pumping blood into a big brain, supplied by ample lungs and a healthy stomach, unfold a story of continuous capacity for endurance. The peculiar trait of Senn is the genius of persistence, the indefatigable labor that unlocks the secrets which lie beyond the reach of common energy. His

physical power of labor enables him to pursue, methodically, subjects beyond the reach of his fellows, for though one may be endowed with mental gifts, a physique is requisite for continuous thought. Genius is the product of labor, and labor is the genius of application. Senn has followed with wonderful success his investigations amidst a laborous and exciting practice. He has experimented methodically and investigated with definite plans—all involving work far beyond the inclination of most physicians. Senn's reputation was built in fields in which personal labor alone availed—the fields of surgical pathology. Most men require to accomplish any meritorious object with the microscope absolutely uninterrupted leisure, but he accomplished objects which excited admiration amidst a vast and exacting surgical practice. Senn judiciously avoided desultory investigations, the bane of many gifted minds. All practical investigators recognize that only persistent special labors in special fields is of benefit to the race. Senn has a gift of transmitting enthusiasm for work to his fellows, not only by his interesting clinical teaching but by his writings. Few can excite such intense aspirations beyond their personality, beyond sight and hearing. Of course we are all fortunate enough to live in a practical age of experiment. Even the laity today ask what is the practical effect of any new force or remedy. Yet only reasonable investigations demand attention.

Senn's method of teaching is a combination of the practical American and the analytic German style. He reflects the investigating power of his German masters. A large majority of his quotations are from German authors. He has a marvelous power of passing rapidly from one patient to another, and with the enviable power of applying the concrete pathology to the patient in hand. In diagnosis he reminds one forcibly of the idea that probability is the rule of life, and that natural pathologic processes may be sought out. In his clinic which he holds twice a week, he has established a magnificent method of instruction, a Socratic style. He has a Consulting Staff of four seniors; each of the four seniors bring a patient into the arena; gives a short clinical history of the patient and a diagnosis of the case. Now, a man's knowledge is apparent from the questions he asks. After the senior has pronounced his diagnosis, Senn closely questions his methods and views for the faith that is in him. In these four patients the whole field of medicine and surgery may be encompassed, and it is one of the most instructive, suggestive clinical hours found in any country. It is equal to the clinic of Von Bergmann, of Czerny, of Albert, of Nothnagel, of Erb, of Leyden. The diagnosis must rest on analysis, on exclusion, on pathologic facts and on nothing else questionable. The methods Senn pursues, especially at the head of one of the largest colleges in the country is of immeasurable value to the profession, and that is in conservatism. Senn can not be in any sense styled a "cutter." He saves members and organs that many would sacrifice. He advocates that sweeping removal

of organs and parts should not be the surgery of to-day and practices sharply his views in his vast clinic. He pokes a little fun at the special gynecologist, but, of course, we magnanimously forgive him. He may not always be right in his views of retaining organs, which could be removed with future comfort to the female patient, at least, but in general he is influencing surgery and young surgeons in the right direction. I believe that sweeping removal of organs is not the surgery of the XIXth century. Surgery is to repair, to prolong life and diminish suffering, and not to demonstrate perfect operations.

The program of his clinic is extensive. Rush College with Senn's fame taps wide regions for its clinics and it presents all varieties of diseases during the two or three hours which it continues. Many rare cases which have baffled the diagnostic powers of local talent, are sent to Senn's clinic for diagnosis, and it is curious to note how so many turn out to be tuberculosis, in the treatment of which he has made such successful advance.

There is a notable feature in the change in the surgical clinics of this college in the past ten years.

Gunn was a clever and dexterous surgeon who made rapid diagnosis and prided himself on rapid use of the scalpel. His discussion of etiology and pathology was very limited. Parks' short incumbency of the chair was some improvement over his predecessor especially in the line of experimentation and pathology. But Senn pursues entirely new methods and assumes new ground. With him pathologic anatomy is the essential grounds for operative procedures. Bacteriology must be understood. Etiology is prominently discussed and prophylaxis assumes importance. Senn discusses far more his reasons for using the scalpel than how to employ it. His clinic is unsurpassed for learned and brilliant views of medicine and surgery, for acute diagnosis, for abundant and varied material, for conservative and radical methods and for impressive instruction.

The Sanitary Advantages of Employment of Criminals.—The New York Medical Association, through Dr. Austin Flint, chairman of the Committee on Criminology, "has sent out a circular to the profession urging its influence and co-operation in the passage of a law for the employment of criminals in prisons, on the ground that idleness leads to discontent, criminal speculations and propensities, and finally, instead of correcting the prisoner, it makes him more confirmed in his hatred of organized society when he leaves prison walls than when he entered. A copy of the 'concurrent resolution' which passed the legislature last year is inclosed. It must be re-enacted at this session before it comes to a popular vote, as it changes a provision of the recently adopted constitution. It should have the unanimous support of the medical profession of this State."

MEDICAL REVIEW.

EDITORIALS

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PUBLISHED UNDER THE AUSPICES OF THE
MEDICAL REVIEW ASSOCIATION

BY O. H. DREYER.

YEARLY SUBSCRIPTION, \$3.50. SINGLE COPIES, 10 Cents.

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Secretaries of medical societies will confer a favor by keeping us informed of the dates of the meetings of their respective societies, and of officers elected.

Members of the profession who send us information of matters of general interest to our readers will be considered as doing them and us a favor, and we shall take pleasure in inserting the substance of such communications.

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Entered at the St. Louis Postoffice as Second-Class Matter.

Inebriates Legislation.

Long before science demonstrated by exact statistical and pathologic anatomic research the baneful consequences of an habitual excessive use of alcohol, close observers noticed the disastrous results of frequent indulgence in such practice—the moral, mental and physical impairment or annihilation. Although even the moderate use of alcohol on the part of neuropathic or psychopathic individuals is fraught with certain dangers well known to the medical fraternity in general and the neurologists and psychiatrists in particular, it is universally admitted by those most able to judge that, if used intelligently and judiciously, alcohol, like the judicious use of everything else, would be a blessing instead of a curse to the human race. But in the enactment of laws ideal conditions which in reality do not, or only exceptionally, exist, can not be taken into consideration. Law has to deal with facts. It is the duty of legislators to protect the rights, interests and freedom of all citizens and it is frequently a most difficult task to accomplish this object. A forcible detention of habitual

inebriates in State institutions, similar to the forcible sequestration of lunatics, has been advocated in various civilized countries and, from a medical standpoint, has much to recommend it, although the procedure may appear to many as an arbitrary and unjustified measure, interfering with the personal liberty and right of the individual. England's Prime Minister, Lord Salisbury, is among those who do not approve of compulsory involuntary seclusion of inebriates who have not become amenable to a criminal charge; his standpoint being based upon the belief in the indefeasable right of individual liberty. In criticising his position in the matter the *British Medical Journal* claims that his objection is untenable from two points of view:

"The individuals concerned have already lost their own liberty, and eke out their lives by destroying the liberty of others and endangering the public place. Is the individual liberty of the sober to be destroyed to preserve the abject slavery of the inebriate? For the Prime Minister to be consistent, he ought to denounce and undo our present lunacy procedure, which is in the interests alike of the subject and of the community. Lord Salisbury, like most Prime Ministers, has changed his opinions more than once, and we can not believe that so accomplished a statesman will long withstand the disinterested pleadings of the Church, the medical profession, and a growing body of legal opinion voiced by Ex Lord Chancellor Herschell."

Theoretically, the position of the *British Medical Journal* is probably the same as that of most physicians, but when it comes to carrying this ideal view into practice there will be a great many dissenting voices in the medical profession. Supposing a member of good family becomes a victim of alcohol and, consequently, should be forcibly placed into a public inebriate institute. What guarantee has this family, which may be perfectly able to take care of the unfortunate individual, that the patient receives the proper treatment? Moreover, would not the stigma connected with the compulsory detention in a State institute for inebriates outweigh the benefit derived therefrom. At the present stage of civilization it appears that such a law is premature and, although very timely in theory, would probably meet with a great deal of objection when carried into practice. When the time shall have arrived in which excesses due to lack of self-control will be universally looked upon as a pathological condition, a disease, the lack of inhibitory force of certain groups of cells, the enactment of compulsory laws will be appropriate. It is above all by a rational education that the injudicious use of alcohol and its consequences must be combated in the future and in cases of excessive indulgence, due to a predisposing diseased condition, the compulsory sequestration in an inebriate asylum may be the only radical manner in which these conditions can be successfully treated. In such cases it is not a matter of weeks or months, but of years of total abstinence from which any permanent cure may be expected in at least a majority of cases. The cure of alcoholism

is total abstinence and not so much medicinal treatment; although the latter serves as an adjuvant and a means of bridging over certain critical periods.

As soon as the public will have learned to differentiate between the willful debauchee and the pathological victim of alcohol, a compulsory detention of inebriates for an adequate length of time, which must be adapted to each individual case would be, we firmly believe, of great benefit to many unfortunate victims of alcohol and narcotics. But at present, we fear, that the humiliation and disgrace which would by many be associated with the necessity of a compulsory treatment in State inebriate asylums, might, in many instances, outweigh the benefit accruing from such a measure. For the present, therefore, it seems that the private treatment of these cases is more appropriate; such treatment, however, should be taken out of the hands of charlatans who, by means of some mysterious and secret method of procedure, do more harm than good. Every intelligent physician is acquainted with the indications for the treatment of *potators* and knows that total abstinence is *the* and the only remedy after the institution of a certain period of artificial stimulation. After the general public has been educated to look upon inebriety in a similar way as physicians, the time may have come when State institutions for the compulsory treatment of inebriates may be acceptable to all.

A Timely Investigation—The Good Work of the State Teachers' Association.

The vague conception of what constitutes an academy and the difference in grade of colleges, which has been pointed out in our editorial columns, is one of the stumbling blocks to an effective law regulating the admission of students to medical colleges in this State. That the designation academy is practically meaningless and that the presentation of a certificate or a diploma from a "so-called" academy can not be accepted as a guarantee of the acquisition of a satisfactory preliminary education for entering a medical college, is admitted by all representative educators. That there exists an enormous difference in the requirements of the various colleges is equally well known to the representatives of the best institutions in this State. The establishment of a standard conventional estimate of those institutions, whose educational level shall entitle them to be designated and universally acknowledged as colleges, is one of the most pressing necessities of this period of educational reform in the State of Missouri.

To the great satisfaction of the most representative men in the medical profession a movement has been inaugurated by the State Teachers' Association for the purpose of creating order out of the chaos of educational degrees and to designate what degree of education shall entitle an educational institution to be recognized as a "real" college. A special committee appointed by the State Teachers' Association at Pertle Springs, last June, met last week at the Planters Hotel. The chairman of

the committee is Dr. L. H. Jesse, President of the State University at Columbia. The other members are Prof. Kirk, State Superintendent of Public Schools; Dr. W. I. Black, President of the Missouri Valley College at Marshall; Dr. Chaplin, Chancellor of Washington University; Col. A. F. Leet, of the Missouri College at Mexico; George L. Osborne, of the Normal School at Warrensburg; W. T. Carrington, Principal of the Springfield High School; J. D. Wilson, of the Sedalia High School; and L. J. Hall, Superintendent of the Public Schools of Montgomery City.

The Committee is to define what schools in Missouri should be called colleges, and to state in detail what subjects should constitute the course of study in public high-schools to entitle graduates to the admission to universities or "real" colleges without an examination. It is confidently expected that the result of this conference will be to make the course of study in the public high schools of the State uniform. Dr. Jesse, a member of the committee, in speaking of the object of the meeting, made the following explanatory remarks:

"What we mean by real colleges are schools that are entitled to the designation of college. We draw a distinction between colleges and high schools, and also between colleges and academies. There are some forty so-called colleges in Missouri, and the most of them should properly be classified as academies. A number of them rank no higher as educational institutions than your St. Louis High Schools. We have two or three universities in Missouri, each being a collection of colleges, and only five or six other schools that are real colleges. The others are not entitled to the name of college. The State Teachers' Association can not compel them to drop the name college and substitute academy, or some other name, and I don't know that any of them will make the change voluntarily, but we can ask them to anyway."

Prof. Dirk, as well as other members of the Committee, expressed the conviction that the cause of education in Missouri could be greatly benefited by a proper classification of the schools of the State.

We can give the Committee the sincere assurance that, in our opinion, every good citizen and honest physician is warmly applauding its active and laudable endeavors. The careful analysis of academic degrees by representative educators has become more and more recognized as a glaring necessity. With a proper understanding of the relative value of such degrees a State Board of Health would not refuse to accept as proper credentials for the entrance of a medical college a candidate who has absolved the sophomore class of Columbia College, while it accepts, on the other hand, the credentials of students consisting in a statement from the secretary of a medical college that the applicant has a diploma from a high-school or college, or that he has presented a first grade teachers' certificate. The Missouri State Board of Health is claimed to be guilty of this very flagrant proof of misinformation upon the value of academic degrees thereby demonstrating

the necessity of their investigation by competent authority.

As matters stand at present all that is required for the applicant wishing to study medicine at a medical college in good standing with the State Board of Health is that he procure a certificate from the secretary of the medical college which he wishes to enter stating that he has a diploma from a high school, or a college, or a first-grade teachers' certificate, leaving the decision of what college is to be recognized as a "real" college and whether a diploma of this or that high-school or academy is acceptable or not, entirely to the judgment of the secretaries of the various colleges.

Let us hope that this State may follow soon the example of the State of New York in creating a board, after the model of the Board of Regents of the State of New York, whose exclusive duty it shall be to examine the credentials of applicants for the entrance of medical colleges and, in case of unsatisfactory credentials, the applicants themselves. This, of course, can only be done satisfactorily, after the relative value of academic degrees has been investigated and determined.

The duty of the State Teachers' Association is a sublime one and its decision will undoubtedly be destined to greatly advance the general education in this State and, with the assistance of proper legislation, also that of the medical fraternity.

A Step Backward—A Bill Providing for a Change in Preparatory Medical Education in the State of New York.

The Board of Regents of the State of New York has done much in the investigation of academic degrees and its standard for the admission of students to medical colleges may be safely accepted by other States. This Board requires certificates of having successfully completed at least one full year's course of study in the collegiate department of any college or university, registered by the regents as maintaining a satisfactory standard. The equivalent of such a certificate has been carefully and most satisfactorily defined by the regents, so that applicants of this country as well as other civilized nations receive a just and impartial consideration. The applicants for admission to medical colleges must either present credentials in harmony with the Board's standard or pass an examination before the Board which, as every scholar knows, and every disinterested person admits, is an exceedingly fair and just one.

We are, therefore, greatly surprised to learn of a bill, called the Stanchfield bill, which is now before the Assembly at Albany, providing for the right of medical colleges to conduct their own examinations entitling to the entrance of the respective college, because, as some medical colleges assert, the present law tends to—drive medical students from the State. (!) What a noble and high-minded motive. We are proud of residing in the "wild and woolly" West; for such sentiments are impossible in this neck of the woods.

But there is one redeeming feature in the stand these colleges are taking, namely, the honest naiveté and frankness with which they volunteer to express their real motive. For this, at least, they deserve credit. But as certain as evil engenders evil we can assure them that if they knew what is best for the citizens of their State, nay, the whole country, they would desist from any such foolhardiness and idiocy. The State of New York has the only rational law regulating the admission of students to medical colleges in this country and it should be proud of it and preserve and cherish it as a glorious example and as a contrast to selfish mischief makers whose ways are dark and whose beau ideals mean moral run to themselves as well as everybody with whom they came in contact. All the best men in the medical profession look upon the law of the State of New York as the only trustworthy means of satisfactorily solving the question of reform in the entrance requirements for medical colleges and are trying to imitate their colleagues of the State of New York in their good endeavors. We do not know how many sympathizers the new bill, which is now before the Assembly at Albany, may have, but we do know that in this section of the country all educated good men in and outside of the medical profession pray that the bill may be crushed out of existence, finally and irrevocably, and that a law, as it exists now in the State of New York, may soon be adopted by all States of the Union.

The Committee on Legislation of the New York State Medical Society, has sent a communication to all the members of the State Society of which the following paragraph is characteristic of the sentiment which seems to prevail among the members of that Society with reference to the new bill:

"Should this bill become a law, preliminary education of medical students, on which New York has justly prided itself, will become a farce. Our State Medical Society year after year has protested against any such change in the law, and has warmly supported the existing protections against incompetence in practitioners, or against mercenary motives in those who would make cheap the degree of M.D. There would be little objection to the four-years' course proposed were it added to the existing law, but here it seems designed chiefly to cover up and carry 'riders' against which the best medical sentiment of the State is unanimous."

This communication expresses exactly the sentiment of the best element in the medical profession as well as that of every educated citizen in the State of Missouri and, we believe, in the whole country.

A New Method of Wound Treatment by Dr. Schleich.

At the recent convention of the Seventeenth Congress of Balneologists at Berlin, Dr. Schleich demonstrated his—by this time well known—method of local anesthesia, removing by this method a piece of the left

clavicle. As a new antiseptic the Doctor advocated formalin-gelatin which, in the powdered form, is dusted over the wound surface. Wounds which ordinarily do not heal readily stop suppurating a day after the application of formalin-gelatin. The author claims that he has thus treated hundreds of cases of contusions and in no instance did suppuration take place. It appears that by the action of the tissue cells the gelatin is separated from the formalin leaving the latter in its pure form to act upon the pyogenic microbes. The advocacy of a new antiseptic method of wound treatment by a surgeon who is as favorably known as Dr. Schleich deserves the full attention of the medical profession.

The X Rays in St. Louis.

Dr. Curtman, Professor of Chemistry at the Missouri Medical College, who is one of the most versed, of local talent in the X rays has, in conjunction with Dr. Tuholske, decided to attempt to locate the bullet lodged in the chest of young Sharpe, whose mysterious shooting was recently chronicled in the secular press. The rays will be generated in the most approved manner and the experimenters hope to be able to locate the missile. We will be pleased to announce the success of the experiment.

E. T.

BOOK : REVIEWS

Books reviewed in this column may be obtained, post-paid, by addressing the publisher of this journal, and remitting the quoted price.

New Truths in Ophthalmology. By G. C. SAVAGE, M.D., Professor of Ophthalmology in the Medical Department of the Vanderbilt University. Third Edition, with Fifty-eight Illustrations. Published by the Author.

The author of this work must be admired for his evident sincerity in his opinions and for the vigor of his discussions. His book represents a large amount of original investigation and in it the reader will find many hints for further study. The author's theory of the anatomical function of the oblique muscles and their relation to astigmatism is certainly original and the demonstration of the theory by the reproduction of the ocular conditions in photographic lenses is unique.

The results of his extensive practice of "physical culture" or systematic exercise of weakened eye muscles will be awaited with interest.

E. T.

Electricity in Electro-Therapeutics. By EDWIN J. HOUSTON, Ph.D., and A. E. KENNELLY, Sc.D. 412 pages. 128 illustrations. New York: The W. J. Johnston Co. Price, \$1.00.

The great progress of electrical sciences has removed

the subject from the comprehension of most men and, due to this impossibility of complete knowledge, the therapeutic application of electricity has a tendency to degenerate to empiricism and experimentalism. This book, composed by experts but written in simple and plain language, will impart to the medical reader all the necessary principles of the subject and will expose the possibilities of electro-therapeutics and promote its more scientific application.

E. T.

The Cosmopolitan.—The General of the Army, the General commanding the U. S. Corps of Engineers, Vice President Webb, of the New York Central, and John Jacob Astor, compose *The Cosmopolitan Magazine's* Board of Judges to decide the merits of the horseless Carriages which will be entered in the May trials, for which *The Cosmopolitan* offers \$3,000 in prizes. This committee is undoubtedly the most distinguished that has ever consented to act upon the occasion of the trial of a new and useful invention. The interest which these gentlemen have shown in accepting places upon the Committee is indicative of the importance of the subject, and that the contest itself will be watched with marked interest on both sides of the Atlantic.

TRANSLATIONS.

BY EDGAR THOMPSON, M. D.

Treatment of Lumbago.—Albert Robin doubts the reputed frequency of muscular lumbago and is of the opinion that a great majority of cases are articular (*Bull. de Ther.; Rev. Inter.*). The symptoms are of two classes; the first, those complained of by the patient, are the spontaneous pains and the pain on movement; the second set of symptoms, recognized by the attendant are the immobilization of the affected region and the localization of the tenderness. All movements of the body are painful and extension is especially so. There is a spontaneous immobilization of the lower vertebra and pelvic articulations. Pain is excited by pressure on the following points: between the spinous processes of the lumbar vertebra and about the sacro-iliac and sacro-coccygeal articulations. The gait is stiff with the body inclined a little forward. The manner of rising from a sitting to a standing posture is characteristic.

The treatment of lumbago has followed many methods: 1, Frictions, with or without liniments; 2, Revulsives, in the shape of scarifications by hot metals, etc.; 3, Massage; 4, Electricity; 5, Local anesthetic in the form of sprays and injections.

Dr. Robin has found jaborandi to be a remarkably efficacious remedy in lumbago and counsils its use. In all cases uncomplicated by cardiac affections or oliguria

it is a safe and reliable drug. The author prefers an alcoholic infusion, and it is administered until free diaphorism and salivation is established.

Frequently the excessive salivation has a nauseating tendency, which is generally dispelled by a hot drink. Great relief is experienced by the patient. Sodium phosphate and sodium salicylate are good adjuvants.

Constipation and Diarrhea.—Chronic, habitual constipation is usually a manifestation of a complete gastro-intestinal atony. Dr. Paul Cornet (*Le Progres Med.*) says the use of the so-called laxatives gives a mere temporary relief and he has found that a proper diet will effect a complete and permanent cure in all cases of habitual constipation due to intestinal atony.

In the dietetic treatment there are three main indications:

1. It is desirable to give those foods which have the greatest amount of undigested residue. This residue is a foreign body and increases the intestinal peristalsis.

2. The introduction of a sufficient amount of saline and saccharine substances to cause an extensive transudation of serum in the intestines, which will contribute to the fluidification of the ingesta.

3. The methodical use of all aliments which contain organic acids (lactic, butyric and acetic). These acids are the physiological stimulants of the peristaltic movements.

That a sufficient residue remains after digestion a large amount of plain or Graham bread should be eaten; potatoes on account of the contained cellulose and fibrous matter are good. For the same reason all the legumes are beneficial, as turnips, carrots, asparagus, lentels, peas and beans.

The second principle is satisfied by the liberal use of cooked saccharin fruits as prunes, apples, etc. Figs are excellent on account of this sugar.

To fulfill the third demand (of an organic acid) butter milk is the most satisfactory food. If one was limited to one remedy it should by all means be butter milk which is almost an ideal treatment. Cases of inveterate constipation of long standing (twenty years) yield to the butter milk diet when everything else is applied in vain.

In the majority of cases there will be no occasion for the use of laxatives.

In the treatment of diarrhea the author says Buxbaum's hydrotherapeutic methods are worthy of trial. If the diarrhea is caused by an improper alimentation, eliminative peristalsis can be set up by cold baths of short duration. If the diarrhea is due to an increased action of the intestinal muscles the proper amount of relaxation is introduced by a warm bath of long duration (one-half to one hour). In catarrhal diarrhea derivative processes which congest the skin as frictions, cold douches are good. In the diarrhea from passive congestion of the mucous membranes and in the hysterical and neurasthenic form good results follow cold sitz baths.

Kummerling has devised a rational system of abdominal massage in the treatment of chronic constipation. The method is as follows (*Sem. Med.; Revue Inter*): The patient reclines lying on the right side, while the manipulator grasps the skin and subcutaneous tissue in each hand over the iliac curve, and kneads, and presses the intestine from above downwards. This maneuver is continued five minutes. Then the patient turns and rests on the left side and the massage is repeated on the right side with the exception that the rubbing is from below upward in the natural direction of peristaltic action. Then the patient is placed in the knee chest position and the manipulation is applied along the transverse colons. This process, lasting fifteen minutes, will generally result in an abundant alvine discharge.

Statistics of Ten Thousand Cases of Hernia.—M. Berger has reported his conclusions drawn from 10,000 cases—the personal examination of *ten thousand cases of hernia*. He notes that his tables are opposed, in many instances to those of Malgaigne, which have been looked upon as authoritative. (*La France Med.*)

The following are the general conclusions of the examination:

- I. *General distribution and frequency of hernias.*
 - a. *According to the sex* 7,433 cases were observed in the male; 2,534 cases were females, giving a rough proportion of three cases in the male to one in the female.
 - b. *According to the variety of the hernia.*—*Inguinal hernia.* In the male sex 96% of all cases, whether simple or multiple, were inguinal.
2. In 6,220 cases of inguinal hernia observed in the male, 4,526 were double; therefore the double inguinal hernia is about four times as frequent as the simple. The author notes that this fact is a contradiction of all other statistics.
3. Inguinal hernias were found to be 1.5 more often on the right side than on the left.
4. In the cases of double hernia the volume of the tumors on either side was the same in 50% of the total number. When the hernias are unequal in size the right is most often the larger.
5. The author is of the opinion that many cases of small unilateral, inguinal hernia escape detection, and if all were discovered the preponderance of the double variety would not be so great.
6. It is impossible, by examination of the living, to recognize a *congenital* origin; i. e., whether the hernia (inguinal) is peritoneo-vaginal. The author has definitely determined 479 cases of congenital inguinal hernia, 216 of which were over 15 years of age; 263 were under the same age; 214 cases were complicated with testicular ectopia, or other congenital malformations. Most all congenital hernias are on the right side and they are rarely bilateral. If there is no coincident malformations congenital hernias can not be possibly diagnosed from those acquired.

7. There is no certain means to distinguish in the living the direct inguinal hernias from the oblique.

8. In the female inguinal hernias, simple or double, alone or associated with other hernias, were found in 44.6% of all cases; the unilateral being, in the infant, three times more frequent than the double variety, and two times as frequent in the adult.

9. *The crural hernia* is rare in the male; it was found in 6.6% of all cases, and is almost always associated with other hernias, especially with inguinal. Crural hernias in the male are a little more frequent on the right side than on the left.

10. In the female 37.1% of all cases of hernia were crural. The crural variety is therefore less frequent than the inguinal by a ratio of 1 to 1.35.

11. The combination of an inguinal hernia with a crural rupture on the opposite side is frequent. The crural is usually on the right side.

12. The co existence of an inguinal and crural hernia on the same side with a union of their tumors, is much more frequent in the male than in the female; 207 cases were observed in the former.

13. *Umbilical hernia* was only found in 5.46% of the masculine cases; 27.34% of the feminine cases were umbilical. Hernias of the linea alba and epigastric region are more frequent than is generally believed. They represent 13.7 of all cases. Most of the cases of this variety of hernia are in the male sex.

14. There were 29 cases of *laparocoele* in the female and 6 in the male.

II. *Frequency of hernia according to age.* The scale of frequency has two maximums. The first great number of hernias is in the first year of life when the congenital forms occur. Then the ratio of frequency declines to the twentieth and twenty-fourth year when the fewest number occur. Then the number increase every year until a second maximum is reached in the seventieth and seventy-fourth years. In the female the same general cycle is seen, but the amplitude of the representing curve is not so great.

The relative frequency of hernia of all kinds and of all ages to the total population (Paris and environs), is 1 hernia to every 22.3 persons. In the male the proportion is 1 to 14.9. In the female it is 1 to 44.7.

The relative frequency of the various hernias in the various periods of life is the following:

a. *In the male.* The frequency of the simple inguinal is very great in the first five years, especially on the right side, diminishing rapidly to the thirtieth year; then the frequency remounts to the second maximum, about the fifty fifth year. Double hernias are rare in infancy, increasing rapidly up to the thirtieth and forty-fifth year, then declining slowly.

Congenital hernias are extremely common in the early years, then decrease and are rare after the thirty-fifth year.

Crural hernias are exceptional in infancy. The maximum is at the sixtieth and seventieth year.

Umbilical hernias are very frequent in the first year of life, after which they are rare.

b. *In the female.* In the infancy of the female sex the umbilical hernia predominates by a great majority. The different varieties of hernia occur in varying frequency in the various periods of life. The congenital inguinal hernias occur in the first year of life.

III. Etiology of hernia.

1. *Hereditary influence.* A clear hereditary antecedent has been traced in 2,079 cases. The hereditary influence is homo sexuelle.

2. *Influence of professions.* The more exigent and severe the manual labor the greater is the number of hernias.

3. *Influence of parturition.* Each successive parturition increases the liability to hernias. A large number occur during pregnancy and immediately after the accouchment.

4. Certain *pathological states* produce a tendency to hernias, as respiratory and urinary troubles, habitual constipation, etc.

5. *Occasional causes* are great exertions, sudden strain when the body is lax and unguarded. etc.

MEDICAL SOCIETIES

Western Society of Eye, Ear, Throat and Nose Surgeons.

Preliminary programme to be rendered in Kansas City, Mo., April 9-10, 1896, Parlor S, Midland Hotel, after which a Western Society of Eye, Ear, Throat and Nose Surgeons will be formed.

APRIL 9—10 A. M.

Called to order by Dr. J. H. Thompson, President Kansas City Academy of Medicine.

Address of Welcome by Dr. C. Lester Hall, President Missouri State Medical Society.

Response by Dr. R. S. Black, President Kansas State Medical Society.

Dr. Hal Foster, Acting Secretary.

RECEPTION COMMITTEE.—Drs. J. N. Jackson, W. C. Lyree, H. E. Pierce, J. M. Langsdale, C. P. Cathcart, L. L. Fulton, T. W. Schaefer, S. G. Grant, W. O. Moteler, C. A. Rittier, W. P. King, A. J. Bond.

PROGRAMME.

1. Two Cases of Opening the Lateral Sinus for the removal of Infectious Thrombus. Recovery in One Case. Dr. C. Barok, St. Louis, Mo. Discussion opened by Dr. Wm. Scheppegegrell, New Orleans, La.

2. The Ocular Manifestations of Hereditary Syphilis. Dr. T. C. Evans, Louisville, Ky. Discussion opened by Dr. LeRoy Dibble, Kansas City, Mo.

3. Diabetic Retinitis. Dr. Adolf Alt, St. Louis, Mo.

4. A paper. Dr. A. B. Farnham, Milwaukee, Wis.

AFTERNOON SESSION—2 P. M.

5. When Should the Cautey be Used? Dr. Wm. C. Pipino, Des Moines, Ia. Discussion opened by Dr. W. L. Dayton, Lincoln, Neb.

6. Empyema of the Frontal Sinus with Report of Cases. Dr. C. P. Ambler, Canton, Ohio. Discussion opened by Dr. F. C. Tiffany, Kansas City, Mo.

7. The Use of Peroxide of Hydrogen in Diseases of the Throat, Nose and Ear. Dr. Wm. Scheppegegrell, New Orleans, La. Discussion opened by Dr. J. W. Gaines, Kansas City, Mo.

9. Paper. Dr. Wm. Porter, St. Louis, Mo.

10. Tinnitus Aurium. Dr. J. W. May, Kansas City, Kan. Discussion opened by Dr. Adolf Alt, St. Louis, Mo.

11. Paper. Dr. Robert Leavy, Denver, Col.

EVENING SESSION.

12. Panophthalmitis Caused by Leucoma Adherens (Anterior Synechia) and the Treatment of Anterior Synechia. Dr. L. A. Lebeau, St. Louis, Mo. Discussion opened by Dr. J. E. Minney, Topeka, Kan.

13. Tubercular Laryngitis at High Altitudes. Dr. B. P. Anderson, Colorado Springs, Col. Discussion opened by Mr. D. Milton Greene, Grand Rapids, Mich.

14. Why Deafness Afflicts Some and Not All Who Suffer from Diseases of the Upper Air Passages. Dr. W. F. Strangways, Flint, Mich. Discussion opened by G. A. Wall, Topeka, Kan.

15. Purulent Brain Infection from Otitis Media. Dr. B. C. Fryer, Kansas City, Mo. Discussion opened by Dr. C. Barok, St. Louis, Mo.

MORNING SESSION, APRIL 10—9 A. M.

16. Subjective Sensations. Dr. W. E. McVey, Topeka, Kans. Discussions opened by Dr. John C. Smith, St. Louis, Mo.

17. What Operations for Senile Cataract Should the Beginner Select? Dr. J. H. Thompson, Kansas City. Discussion opened by Dr. T. C. Evans, Louisville, Ky.

18. The Clinical Examination of Deaf Mutes. S. T. Walker, Jacksonville, Ill., of Illinois State Institution of the Deaf and Dumb. Discussion opened by H. C. Hammond, Supt. of Kansas State Institution for Deaf and Dumb, Olathe, Kan.

19. Usual Head Formation with Eye, Nose and Throat Complications. Dr. H. W. Woodruff, Joliet, Ill. Discussion opened by Dr. R. S. McGee, Topeka, Kan.

20. Adenoid Vegetations of the Vault of the Pharynx—Report of Cases. Dr. C. E. Clark, Kansas City. Discussion opened by Dr. M. F. Jarret, Fort Scott, Kan.

21. A paper. Dr. John A. James-James, St. Louis, Mo.

22. Errors in the Literature on Javal's Ophthalmometer for the Measure of Astigmatism. Dr. G. W.

Grove, Kansas City, Mo. Discussion opened by Dr. W. A. Shoemaker, St. Louis, Mo.

AFTERNOON SESSION—2 P. M.

23. The Present Status of the Physiological Anatomy of Vocalization and Phonation. Dr. Edward H. Schaefer, Kansas City, Mo. Discussion opened by Dr. H. W. Loeb, St. Louis, Mo.

24. Eye Affections as Related to Nasal Diseases. Dr. George E. Bellows, Kansas City, Mo. Discussion opened by Dr. E. E. Hamilton, Wichita, Kan.

25. Organization a Protecting Factor for the Up-to-Date Physician. Dr. J. D. C. Holt. Discussion opened by Dr. B. P. Anderson, Colorado Springs, Col.

26. A paper. Dr. H. W. Loeb, St. Louis, Mo.

Third International Congress of Dermatology.

The Third International Congress of Dermatology will be held in London, August 4 to 8, 1896.

TUESDAY, AUGUST 4.

Preliminary business. 12:00, Presidential address.

DERMATOLOGY.

3:00 P.M. Subject—"Prurigo."

1. Dr. Besnier (Paris); 2. Prof. Kaposi (Vienna); 3. Dr. J. C. White (Boston); 4. Dr. Payne (London).

WEDNESDAY, AUGUST 5.

9:00 A.M. Clinical Demonstration of Cases.

DERMATOLOGY.

10:30 A.M. Subject—"The Etiology and Varieties of Keratitis."

1. Dr. Unna (Hamburg); 2. Dr. H. G. Brooke (Manchester); 3. Prof. V. Mibelli (Parma); 4. Dr. W. Dubreuilh (Bordeaux).

3:00 P.M. Papers.

SYPHILIS.

10:30 A.M. Subject—"Syphilitic Re-Infection."

1. Prof. Fournier (Paris); 2. Prof. Lang (Vienna); 3. Mr. Alfred Cooper (London); 4. Dr. Fitzgibbon (Dublin).

3:30 P.M. Papers.

THURSDAY, AUGUST 6.

9:00 A.M. Clinical Demonstration of Cases.

DERMATOLOGY.

10:30 A.M. Subject—"The Connection of Tuberculosis With Diseases of the Skin Other Than Lupus Vulgaris."

1. Dr. J. Nevins Hyde (Chicago); 2. Dr. Hallopeau (Paris); 3. Dr. Radcliffe Crocker (London); 4. Dr. G. Riehl (Vienna).

SYPHILIS.

10:30 A.M. Subject—"The Duration of the Period of Contagion of Syphilis."

1. Mr. Hutchinson (London); 2. Prof. Campana (Rome); 3. Prof. Lassar (Berlin); 4. Dr. Feulard (Paris).

2:00 P.M. Subject—"Ringworm and the Tricophytons."

1. Dr. Sabouraud (Paris); 2. Prof. Rosenbach (Goettingen); 3. Mr. Malcolm Morris (London). Many contributions to this debate promised.

FRIDAY, AUGUST 7.

9:00 A.M. Clinical Demonstration of Cases.

DERMATOLOGY.

10:30 A.M. Subject—"The Nature and Relations of the Erythema Multiforme Group."

1. Prof. de Amicis (Naples); 2. Dr. T. H. Veiel (Stuttgart); 3. Dr. P. A. Morrow (New York); 4. Dr. Stephen Mackenzie (London).

3:00 P.M. Papers.

SYPHILIS.

10:30 A.M. Subject—"Malignant Syphilis."

1. Prof. Handlung (Copenhagen); 2. Prof. Neisser (Breslau); 3. Prof. Tarnovsky (St. Petersburg).

2:00 P.M. Clinical Demonstration of Cases.

3:00 P.M. Papers.

SATURDAY, AUGUST 8.

9:00 A.M. Clinical Demonstration of Cases, followed by papers.

NOTE—The Congress has been fortunate enough to secure for its use the building known as Examination Hall, on the Victoria Embankment. This will afford every facility for all kinds of demonstrations; cases, pictures, museum, etc. Special efforts are being made to have large clinical demonstrations of cases, and all who have been in London know how rich is the material there.

It is of the greatest importance that those intending to join the Congress should notify the Secretary, Dr. J. J. Pringle, 23 Lower Seymour Street, London, W., of their intention as soon as possible. The membership fee is \$5.00, which should be sent in the form of one pound Sterling draft on London, or P. O. order to the same amount.

GEO. THOS. JACKSON,
14 East 31st St., New York. Sec'y for the U. S.

The Tri-State Medical Society of Iowa, Illinois and Missouri.

The Tri-State Medical Society of Iowa, Illinois and Missouri will meet in Chicago April 7, 8 and 9, 1896.

OFFICERS FOR 1896.—Robert H. Babcock, M.D., President, Venetian Building, Chicago; A. H. Cordier, M.D., First Vice-President, Rialto Building, Kansas City; W. A. Todd, M.D., Second Vice-President, Chariton, Iowa; G. W. Cale, M.D., Secretary, 4408 Washing-

ton Boulevard, St. Louis; C. S. Chase, M.D., Treasurer, Waterloo, Iowa.

COMMITTEE OF ARRANGEMENTS.—Hugh T. Patrick, M.D., Chairman; W. L. Baum, M.D., W. H. Wilder, M.D.

Meetings will be held in the Club Room of the Great Northern Hotel.

Hotel rates \$1.50 per day and upward, on the European plan. Cheaper rates at other hotels in the vicinity.

Reduced rates on all railroads. One and one third fare for the round trip.

The public address will be given by Dr. J. M. Matthews, of Louisville, Kentucky, in Handel Hall Subject: "Some Needed Reforms in the Medical Profession."

Surgical Clinics will be held by Dr. Nicholas Senn and Dr. J. B. Murphy.

Gynecological Clinics will be held by Drs. J. H. Etheridge and Fernand Henrotin jointly.

The following papers will be read:

Dr. Nicholas Senn, Surgical Clinic; Dr. John B. Murphy, Surgical Clinic; Dr. J. H. Etheridge, Gynecological Clinic; Dr. F. Henrotin, Gynecological Clinic; Frank Allport, Minneapolis, "The Relation of the Oculist to the Optician"; Wellington Adams, St. Louis, "A New and Practical Method of Opening and Dilating the Eustachian Tube"; J. J. Brownson, Dubuque, Iowa, "Chest Drainage in Empyema"; J. M. Ball, St. Louis, "Eye Symptoms in Brain Tumor"; G. W. Barr, Quincy, Ill., "The Use of Patent Medicines"; G. Wiley Broome, St. Louis, "The Diagnosis and Surgical Treatment of Cancer of the Cervix"; D. C. Brockman, Ottumwa, Ia., "Points in Surgical Practice"; A. H. Cordier, Kansas City, "Pregnancy Complicated by Cancer of the Cervix—Report of Case"; G. W. Cale, St. Louis, "Surgical Treatment of Brain Tumor"; F. B. Dorsey, Keokuk, Iowa, "Fracture of Pelvis, Complicated with Pregnancy"; C. Travis Drennen, Hot Springs, Ark., "Gonorrheal Rheumatism"; H. C. Eschbach, Albion, Iowa, "Colles Fracture"; R. C. Heflebower, Cincinnati, "Foreign Bodies in Crystalline Lens" and "The Ophthalmoscopic Findings in Reynaud's Disease"; Webb J. Kelly, Galion, Ohio, "The Treatment of Unreduced Fractures of the Lower End of the Radius"; Merrill Rickets, Cincinnati, "Anal Fistula, Peritonitis, Laparotomy, Recovery"; Adolph Meyer, Worcester, Mass., "Etiological, Clinical and Pathological Factors in Diagnosis and Rational Classification of the Infectious and Toxic Diseases of the Peripheral Nerves, Spinal Cord and Brain"; C. B. Nanorede, Ann Arbor, Mich., "The Operative Treatment of Jacksonian and Focal Epilepsy as Illustrated by Selected Cases"; Paul Paquin, St. Louis, "Some Recent Criticism on the Serum Therapy"; Roswell Park, Buffalo, N. Y., "Auto-Infection in Surgical Cases"; J. F. Percy, Galesburg, Ill., "Special Education as a means of Treatment in Chronic Neurasthenia"; F. Reder, Hannibal, Mo., "Remarks on a Partial Dislocation of the Axis"; D. S. Reynolds, Louis-

ville, "Local Treatment of the Eye"; E. O. Sission, Keokuk, "Ulcerative Inflammation of the Cornea"; T. O. Summers, St. Louis, "Leucocytosis, Its Relation to Modern Therapy"; W. W. Wathen, Louisville, "Pathology of Cystic Tumors of the Ovary and Broad Ligaments"; O. B. Will, Peoria, "Dysuria in the Female"; Alex. Hugh Ferguson, Chicago, "Pylorotomy in America"; D. R. Brower, Chicago, "Anemia and its Relation to the Nervous System with Suggestions as to Treatment"; John Ridlon, Chicago, "Flat Foot"; J. B. Bacon, "Conservative Surgery in the Treatment of Hemorrhoids"; T. J. Shuell, Parnell, Iowa, "The Relation of Fecal Impaction to Appendicitis"; L. H. Dunning, Indianapolis, "Diffuse Pelvic Inflammation."

Papers will also be read by Drs. J. J. M. Angear, Chicago, J. R. Ash, Brighton, Illinois, Emory Lamphear, St. Louis, John Puntton, Kansas City, R. Harvey Reed, Columbus, Ohio, Weller Van Hook, Chicago, Wm. Allen Pusey, Chicago, Arthur Edwards, Chicago, Frank Billings, Chicago, Gustav Fuetterer, Chicago, Otto Sutter, St. Louis, A. E. Mink, St. Louis, G. H. Thompson, St. Louis, Harry Wells, St. Louis.

American Academy of Medicine.

The twenty-first annual session of the American Academy of Medicine will be held in the Dancing Hall of the Hotel Aragon, Atlanta, Ga., on Saturday, May 2, and Monday, May 4, 1896

The proprietors of the Aragon have made special rates for those who attend the meeting; it is confidently expected that the concession for one and one-third fare for the round trip granted to the American Medical Association will be available in time for those who desire to attend the opening session; a very pleasant excursion can be arranged to start from Philadelphia and visit Asheville, N. C., the "Land of the Sky," and Chattanooga, en route to Atlanta, if a sufficient number club together for that purpose; or special Pullman cars can be chartered for the exclusive use of those who attend the meeting for the direct route to Atlanta from any rendezvous selected. The Secretary invites correspondence on any of these topics, and also from those who may desire a copy of the completed programme, when it is issued; full information will be promptly given on any of these subjects.

OUTLINE PROGRAMME.

The Academy will meet in executive session with closed doors on Saturday, May 2, at 10 A. M. The open session for the reading of papers will begin at about 11 A. M., there will be a recess for lunch from 1:00 to 2:30 P. M. The "Reunion Session" and annual dinner will be held on Saturday evening. An executive session will be held on Monday morning after which the special discussion on "Methods of Medical Education" will be the order of the day. The Association of American Medical Colleges, and the Confederation of the State Boards of Medical Examiners and Licensers have accepted the

invitation of the Council and will participate in this discussion. The time-table for the day and the time for adjournment will be determined by the circumstances.

PAPERS PROMISED.

NOTE—No attempt is made to arrange the papers in the order in which they are to be read.

1. Laboratory and Hospital Work. The President's Address. Henry M. Hurd, M.D., Baltimore, Md.
2. Colonies for Epileptics. Frederick Peterson, M.D., New York City.
3. Insanity in the South. J. T. Searcy, M.D., Tuscaloosa, Ala.
4. Tuberculosis in Public Institutions. J. W. Babcock, M.D., Columbia, S. C.
5. Vivisection. George M. Gould, M.D., Philadelphia, Pa.
6. Subject not yet given. Woods Hutchinson, M.D., Iowa City, Iowa.
7. The Confusion of Pharmacy Relating to the Theory and Practice of Medicine. Elmer Lee, M.D., Chicago, Ill.
8. A National Board to License for the Practice of Medicine. Henry Leffmann, M.D., Philadelphia, Pa.
9. Report of the Committee to Abstract the Laws Regulating the Practice of Medicine and to Suggest a Model Law. Perry H. Millard, M.D., Chairman, St. Paul, Minn.
10. Homicide. Paul Bartholow, M.D., Philadelphia, Pa.
11. The Sociologic and Scientific Attitude of the Medical Profession. W. J. K. Kline, M.D., Greensburg, Pa.
12. A Study of Some of the Distinguishing Features of the Homo Medicus. Charles McIntire, M.D., Easton, Pa.

DISCUSSION ON METHODS OF MEDICAL TEACHING.

This discussion will be opened by a series of ten-minute papers and, in the open discussion to follow, each speaker will be limited to five minutes. The opening papers are as follows:

13. The Preparatory Mental Discipline for the Medical Student. F. H. Gerrish, M.D., Portland, Me.
14. The Lecture and Its Uses. Charles B. Penrose, M.D., Philadelphia, Pa.
15. Text-Book Recitation and Its Advantages. De Lancey Rochester, M.D., Buffalo, N. Y.
16. Laboratory Methods. V. C. Vaughan, M.D., Ann Arbor, Mich.
17. Clinical Teaching for Graduates in Diseases of Children. J. Madison Taylor, M.D., Philadelphia, Pa.
18. The Seminary Method. Bayard Holmes, M.D., Chicago, Ill.
19. Examinations. E. L. Holmes, Chicago, Ill.
20. Students' Medical Societies. Roswell Park, M.D., Buffalo, N. Y.
21. State Examination. J. McPherson Scott, M.D.,

(of Maryland Board of Examiners) Hagerstown, Md.

22. The Best Method to Teach Anatomy. John B. Roberts, M.D., Philadelphia, Pa.
23. The Best Method to Teach Physiology. Charles D. Smith, M.D., Portland, Me.
24. The Best Method to Teach Practice. J. C. Wilson, M.D., Philadelphia, Pa.
25. The Best Method to Teach Surgery. J. S. Wight, M.D., Brooklyn, N. Y.
26. The Best Method to Teach Obstetrics. J. C. Edgar, M.D., New York City.
27. The Best Method to Teach State Medicine. George H. Rohe, M.D., Catonsville, Md.

Correspondence is pending about some additional papers; if any more are promised the titles will appear in the completed programme.

Easton, Pa.

CHARLES MCINTIRE, Secretary.

ABSTRACTS

MEDICINE.

The Treatment of Lupus by the Local Application of Creosote.—Zerenine (*La Médecine Moderne*) has obtained remarkable results in the treatment of lupus by the local application of creosote, being originally led to employ this method by the good results which he obtained in the treatment of pulmonary tuberculosis. The creosote is employed pure or mixed with glycerin in the proportion of one to three or one to ten. It is well to saturate a piece of gauze with a solution of creosote and oil, or creosote and glycerin, and to precede its application to the sore by sacri-fication. In one case of lupus which had existed for fifteen years, and which had been treated by curetting without amelioration, the application of this creosote mixture caused a disappearance of the red color, the movements of the jaw (which had become involved by cicatricial tissue) became more easy, the ulcerated surface improved in appearance, and almost complete cure was produced. In another case, in which a lupus ulcer of the nose had existed for nine months, the ulceration disappeared after a month of treatment, the parts being kept constantly wet with sterilized gauze wet with this solution.

In another case, in which lupus of the nose had returned after scraping, two months of this application of creosote in the proportion of one to three produced a complete cure. Zerenine believes this treatment is less apt to be followed by recidivity than curettage or plastic operation.

In the treatment of chronic suppuration dependent upon tubercular infection this author has also employed these creosote solutions with advantage, particularly in adenitis of the cervical and axillary glands, and in cases

of tubercular suppurative osteitis in the foot the treatment proved very useful.—*Therapeutic Gazette*.

Thyroid Extract in the Treatment of Myxedema.—In the *British Medical Journal* for February 8 there is an article on this subject by Mr. George R. Murray, who remarks that, when thyroid extract was first suggested by him as a remedy for myxedema, two important questions were raised:

1. Can myxedema be completely cured?
2. Will not the disease ultimately return, even if the use of the remedy is continued?

In answer to these questions, he says, evidence will be brought forward to show that myxedema can be cured, and that it does not return when the use of the remedy is continued. It is necessary, however, to be quite clear as to terms. Myxedema is a symptom or combination of symptoms of loss of the function of the thyroid gland. In the idiopathic form it is a symptom of chronic interstitial thyroiditis, just as anasarca may be a symptom of renal disease or ascites of hepatic disease. The myxedema can be cured, although the chronic interstitial thyroiditis still remains. As myxedema is thus a symptom of thyroid inadequacy, it occurs not only as a result of removal or of fibrosis of the thyroid gland, but also in rare cases in consequence of other diseased conditions of the gland.

In illustration of this, says Mr. Murray, two interesting cases which have been observed by Kohler may be mentioned. In one the myxedema developed in consequence of syphilitic disease of the thyroid gland, and as this improved under treatment by potassium iodide the myxedema disappeared. In the other the myxedema occurred as a result of actinomycosis which affected part of the thyroid gland. Great improvement in the myxedema followed the removal of the infected tissues by surgical measures.

In myxedema which accompanies fibrosis of the thyroid gland, we can not restore the gland to its normal condition, but we can restore the patient to health if no incurable complication has arisen. For example, says the author, a gentleman, aged forty four years, who had suffered from myxedema for about two years and a half, was sent to him three years ago. At that time he suffered from well marked myxedema. He could scarcely walk half a mile, and could undertake no work. Under treatment with thyroid extract, rapid improvement took place, so that in six weeks the myxedema had almost entirely disappeared. Five months later he wrote to say that he was quite cured. So complete has been the recovery of his mental and bodily capabilities that a year and a half ago he was able to undertake the duties of secretary to a large manufacturing company, and not long afterward he was able to ascend a mountain over three thousand feet high, with a walk of ten miles, without feeling much fatigue. A daily dose of ten minims of thyroid extract is sufficient to keep him in good health.

In order to show that patients remain free from myx-

edema as long as they take thyroid extract and without any increase in the dose, the author refers to the first case in which the treatment was adopted. This patient, he says, was a woman, aged forty-six years, who had suffered from myxedema for four or five years. There were well-marked swelling of the face, of the hands, and of the feet; dry skin, without perspiration; loss of hair; subnormal temperature; languor; and slowness of speech and action. It is now four years and a quarter since the treatment was first begun, in April, 1891. She gradually lost all the symptoms of myxedema, which, however, partly returned on two occasions when the use of the remedy was discontinued for a time. She has for a long time been free from myxedema, and is so now. The swelling has gone, and the skin is soft and moist; the hair has grown again, the temperature is normal, and she leads an active life as the wife of a workingman. She continues to take a drachm of thyroid extract during each week. As this patient remains well at the end of more than four years, it is evident that as long as she continues to take the extract she will not have myxedema, even if she lives for twenty years more. This continuance of good health in the adult, says Mr. Murray, gives us all the more reason to expect that cretina, if treated early and continuously, will also grow up and develop into normal adults. It will, of course, he says, take years to prove this, but he has brought forward these observations, as they help to show that in cretinism it is well worth while to persevere with the treatment year by year with this object in view.—*N. Y. Med. Jour.*

The Granular Leucocytes.—In No. 353 of the "Proceedings of the Royal Society" there is an abstract of an article on this subject by Dr. G. Lovell Gulland, communicated by Mr. J. N. Langley. All varieties of leucocytes, says the author, are merely stages in the development of a tissue. They may be divided for convenience, and with regard to the presence or absence of granules, into three main groups, the hyaline, the acidophile, and the basophile. These forms, he says, are all derived from the lymphocytes, which are the daughter-cells derived from the mitosis of all leucocytes, except the largest forms. The lymphocyte develops into the small hyaline forms, from which the three groups branch off.

The cells may remain *hyaline*, and attain their maximum development in such cells as the large phagocytes of the alimentary canal or the giant cells of bone marrow. In this case they remain sluggishly ameboid, their centrosomes are very evident, and the cytomitoma and microsome, while visible, are not easily made out.

In the *acidophile* group are included the so-called neutrophile and amphophile cells, which are really oxyphile, and the eosinophile or coarsely granular cells. In the transition forms from the small hyaline cells to the oxyphiles the mitoma of the cell body becomes more visible, and it is this, says the author, rather than the presence of granules which gives rise at first to the

finely granular appearance. The granules are simply the microsomes of the mitoma. In the transition forms between the oxyphile and eosiophile cells some of the microsomes become larger and take up acid dyes and iron hematoxylin better than others, and when the large eosinophiles are reached the threads of the mitoma have become thicker, and also take up iron hematoxylin. The microsomes in the eosinophiles vary greatly in size; they are arranged subradially, with the largest microsomes usually at the periphery. In this group the centrosomes are well seen, better in the eosinophiles than in the oxyphiles.

The cells of the *basophile* group vary immensely in size and shape. The nucleus is generally ellipsoidal, except when the cells are actively ameboid, probably because the cell body is usually relatively large. As the cells increase in size the amount of basic chromatin in the nucleus becomes increased out of proportion to the size of the nucleus. This has no relation to mitosis, which has only once been observed in these cells. The centrosomes can be seen fairly easily in the smaller rounded forms. In the larger forms they are difficult to make out, and it seems possible that there may be several subordinate centrosome. These cells are derived from the small hyaline forms by an increased visibility of the mitoma and an increase in size of the microsomes, which at first are usually very irregular in size, and do not exhibit metachromasia with methyl blue. As the cells become larger, so generally do the granules; they become more uniform, but are never all quite of one size. Metachromasia becomes more constant, and the mitoma more evident, especially in those cells which are moving, or which are greatly branched. The staining of the microsomes is never quite the same as that of the nuclear chromatin.

The granules of leucocytes are therefore, says Dr. Gulland, *not* products of the metabolic activity of the cells imbedded in a structureless protoplasm, as has hitherto been supposed, but represent an altered condition of the microsomes. They always form part of the cytoma, and are therefore plasmatic, and not paraplasmic. They are probably concerned with ameboid movement, and they and the rest of the mitoma are more visible the more active the cell. No definite conclusions as to their chemistry can yet be arrived at, but all the altered microsomes probably consist of nucleo albumins, the basophiles being richer in phosphorus than the eosinophiles.

In diseased conditions it is probably impossible to say what organ is affected from the kind of leucocytes present in excess in the blood.—*New York Med. Jour.*

The Serum Treatment of Diphtheria.—Adolph, of v. Noorden's clinic (*Deut. med. Woch.*) reports the results of 100 cases thus treated. They were not as favorable as those of other hospitals—perhaps because formerly only the most severe cases were admitted. Recently better results have been obtained. Of the 100 cases 20 died; 27 were tracheotomized, with

12 deaths; of the 73 non-tracheotomized, 8 died (11 per cent); 8 of the tracheotomized cases were moribund on admission. In all the cases there was marked clinical evidence of diphtheria, and in 93 the presence of Loeffler's bacillus was demonstrated. In the remaining cases there was evidence enough to show that the disease was genuine diphtheria. There was paralysis in 22 cases. Paralysis of deglutition occurred in 17, with 9 deaths; partial paralysis of the palate in 3; ocular paralysis in 1; and ataxia in 6 cases. Albumen was present in 58 and marked nephritis in 6 cases, 4 of which died. In 1 case there was a hemorrhagic nephritis at the beginning of diphtheria. In 3 cases there was severe cardiac weakness, and these all died. The diphtheria was complicated by measles in 12 cases. There was incontinence of urine in 3 cases, probably due to paralysis of the bladder. In one case a relapse was noted after fourteen days. A considerable degree of laryngeal stenosis disappeared in 8 cases without tracheotomy. An eruption resembling urticaria was seen in 27 cases. The author gives details of 3 cases in which there were pains in the joints, apparently in connection with the serum treatment. In one case there was subsequent fever lasting one or two days, also to be attributed to the serum. Considerable quantities of serum were used, rarely less than 1,000 units. More recently the author has mostly used only about 600 units.—*Brit. Med. Jour.*

Behring's Antitoxin in Angina.—Blumer (*Johns Hopkins Hos. Bull.*), records 18 cases of angina, of which 16 underwent the serum treatment. Of these latter 3 were none diphtheritic; of the remaining 13, 2, which were practically moribund on admission, died. The only case of diphtheria untreated by antitoxin was one in which no membrane appeared; the patient was cured by a bichloride spray. Among the other cases of diphtheria one was an example of the acute lacunar diphtheria of the tonsils (simulating follicular tonsillitis) described by Koplik and another of multiple wound infection by the bacillus diphtheriae. Of the cases which simulated diphtheria 2 were due to streptococcus pyogenes, 1 to bacillus pyocyaneus, and 1 to the pseudodiphtheria bacillus. One of the cases of true diphtheria contracted a second attack three weeks after the first; in this no antitoxin was used, and a third attack supervened after another 37 days. This Blumer considers to confirm the view as to the shorter duration of acquired (21 days) as compared with natural (37 days) immunity. This case is also interesting as showing the possibility of anti-inoculation, and as illustrating the length of time (3 months and 3 days) during which Loeffler's bacillus may persist in the throat in spite of chemical agents. Loeffler's solution having been repeatedly employed. Blumer finds that the serum has a markedly favorable effect upon the general condition and the temperature in true diphtheria, where in other forms of angina the temperature is not influenced by it. In several cases skin eruptions (usually urticarial) appeared, but gave no serious trouble; he regards them as

due to other constituents of the serum than those on which its antitoxic properties depend.—*Brit. Med. Jour.*

Etiology of General Paralysis.—Hirschl (*Wien. klin. Rundschau*), analyses 200 cases of general paralysis occurring during ten months in Krafft Ebing's clinic. Only men are treated of, as a syphilitic history is difficult to obtain in women. Hereditary influences were traceable in only 11 per cent. The majority of the patients were in the lower walks of life, and in no instance was the disease definitely attributable to psychical causes. Physical fatigue and insolation were not regarded as causal antecedents, but Hirschl admits the possibility of trauma as an exciting cause in patients already infected with syphilis, and states that this may occur in about 1 per cent of cases. He denies any connection between saturnine encephalopathy and general paralysis. He maintains that by far the most important etiological factor in the latter disease is syphilis. The pre existence of this he considers proved in 56 per cent, and probable in 25 per cent of the 175 cases in which a history was obtainable; the incubation period varied from two to twenty-nine years. He holds that general paralysis is due to syphilis and syphilis alone, and that the 19 per cent of cases in which there was no indication of this disease in the history had probably suffered from it unknowingly. He supports Obersteiner's view of the analogy of general paralysis with syphilitic perihepatitis; both begin as inflammatory changes followed successively by disappearance of the parenchyma, interstitial changes, and eventually atrophy of the cortex or liver respectively. Hirschl thinks that general paralysis is really a late form of syphilis, beginning as syphilitic encephalitis, and going on to syphilitic cerebral atrophy. He maintains that this theory explains all the symptoms, is unaffected by the resistance of the disease to anti-syphilitic remedies, and is supported by the fact that paralysis and syphilis spread *pari passu*. His view as to the pathology of the cerebral process is based on Lang's dictum that any organ in which a gumma develops must have suffered from irritation in the early stage of syphilis. The contagion residuum in the brain of general paralytics is propagated with renewed vigor, owing to the natural hyperemia of the organ during functional activity, to functional hyperemia from various psychical and mental causes, or to the occurrence of apparently slight traumatic influences.—*Brit. Med. Jour.*

Bronchiectasis.—Duret (*Arch. Gen. de Med.*) relates a case in which recovery occurred after three operations. A girl had a severe attack of whooping-cough when 8 years old, after which she suffered from cough and expectoration. When 18 years she became worse, there being fever, cough and abundant expectoration. Three years later the cough and expectoration, which was now fetid, further increased, and dyspnea was present. The physical signs showed that the lesion was in the lower lobe of the right lung. The largest trocar of Dieulafoy's apparatus was passed into

the chest in the seventh interspace behind, and eventually thick pus with gangrenous debris was obtained. A flap of skin was then raised and portions of three ribs were resected. The thickened tissue now exposed was divided by the thermo cauterium until a cavity was laid open. Gangrenous material escaped. Multiple cavities were then opened up by the cauterium, and it was thought that the openings of dilated bronchial tubes could be felt. After the detritus, etc., was cleared out a cavity remained of about the size of a turkey's egg. The patient expectorated about this time a most horribly offensive material. Two drainage tubes were put in. The patient now steadily improved, and in a month's time was sent into the country. She continued to do well for four months. Later the expectoration increased, amounting to from 30 to 50 c.cm. in the day, and the general condition became worse. A second operation was therefore undertaken about nine months and a half after the first one. Some more cavities were cleared out, scraped with a Volkmann's spoon, and packed with iodoform gauze. There was troublesome vomiting after this operation. A counter opening had to be made fourteen days later below the right breast, and a large drainage tube was passed through. The patient now began to improve again. The drainage tubes remained in for four years. Twelve months later a cutaneo-bronchial fistula remained, and an operation was performed for its closure with success. Two years and a half afterwards the patient was in excellent health. It was thought that the air penetrated into the right lower lobe, and that this part of the lung had again become permeable. Three or four times a day she had a moderate attack of coughing, with the expectoration of a clear and odorless fluid. The author thinks that this came from dilated bronchi in the neighborhood of the diseased focus. The expectoration was diminishing.—*Brit. Med. Jour.*

The Therapeutic Value of Oxygen.—The January number of *Clinical Sketches* contains an abstract of a paper which was recently read before the Liverpool Medical Institution by Dr. Charles J. Macalister, of the Liverpool Stanley Hospital. The author described two cases in which the inhalation of oxygen had proved to be of great value.

The first case was that of a man, 89 years old, who had pains in his limbs, severe headache, and frequent vomiting, which had been attributed to a series of exposures to cold and wet. He had an alcoholic appearance. The urine was diminished in amount, and contained more than a quarter of albumin. The temperature was normal.

Two days after he entered the hospital he seemed drowsy and complained of spots floating before his eyes. The respiration was hurried and the pulse was 82. There was severe frontal headache, with some vomiting; the bowels moved freely. In the afternoon the patient became delirious, and later on he was found to be absolutely blind. The temperature was 100.8° F.;

the pupils were very much contracted with no reaction to light; three were no muscular twitchings. Early in the evening he became semi comatose; the breathing was loud and stertorous, and the lips, the nose, and the extremities were somewhat cyanosed. The temperature was 101° F. Two hours later he was in a profound coma; his eyes were open and the pupils were contracted to pin-points; the muscles were relaxed, the extremities were cyanosed, the mouth was closed, and the heart beat tumultuously. The pulse was 118; there was edema of the extremities. The patient was insensitive to pain and was apparently under the influence of some poison which interfered with oxidation.

Dr. Macalister administered oxygen freely, pure oxygen through one nostril and air through the other. The results were very striking, says the writer, for the face and the lips rapidly became less cyanosed, and in ten minutes the patient tried to push the tube from his nose. The pulse was at once reduced from 118 to 96 beats a minute. The respirations became slower and freer from stertor, and the pupils were less contracted; the corneæ were sensitive. Later on the patient turned voluntarily on to his side, but no replies could be elicited to questions. A cupping glass was then applied over the loin, and the pain effectually aroused him. He sat up in bed and became so violent that assistance was necessary to restrain him, although he took no notice of any questions put to him and made no attempt to speak. He presently relapsed into a drowsy condition, and the administration of the oxygen was repeated, and ten minutes later he sat up and asked for a drink. There was no return of unconsciousness, although two days later there was a threatening of it, which was averted by the oxygen. In twenty-four hours the urine measured a hundred and eight ounces, and contained an eighth of albumin with hyaline and granular casts; the specific gravity was 1.005.

Four days later the patient was able to see; the ophthalmoscope showed small hemorrhages, especially in the left fundus. A few days afterwards the headache disappeared and the albumin rapidly subsided. A week later the man left the hospital perfectly well.

The second case, says the writer, was one of morphine poisoning, and the cure seemed to have been accelerated by the use of oxygen.—*New York Med. Jour.*

SURGERY.

The Management of Cases after Recovery from Appendicular Abscess in which the Appendix was not Removed.—In the February number of *Medicine* there is an article on this subject in which the author, Dr. John D. S. Davis, of Birmingham, Ala., remarks that the practice of dealing with appendicular abscess by simply evacuating the pus and draining the cavity thoroughly, without any very extensive search or breaking up of adhesions in order to find

the appendix, has been adopted by a large number of leading operators for some time past. More recently, he says, some surgeons have contended that the operation should be made complete in all cases, and that all adhesions should be freed and the appendix removed.

The operation for an appendicular abscess, says the author, is usually one of the simplest of procedures, and it is attended with hardly any danger. Where the inflammation is circumscribed and the drainage is through, nearly all the patients recover. They suffer no shock from such an operation, the temperature becomes normal or nearly normal at once, and the condition is one of convalescence almost immediately after the operation. The records of operations for appendicular abscess show that the great majority of patients are cured after evacuation and complete drainage. The recurrence of the disease in such cases is very rare. The appendix, in a large proportion of cases, ruptures before the abscess forms, and is completely drained thorough the abscess and permanently cured. In others the appendix is destroyed by the inflammation, and there is nothing left of it when the abscess is operated on. An extensive search for the appendix is apt to break up adhesions and allow the escape of septic fluid into the general peritoneal cavity. Thus a very simply condition may be converted into one of the most serious that could happen. Surely, says the author, such a risk should not be hazarded when it is so easily avoided. Even if life is saved after such an operation, the patient will have all the annoying symptoms, such as thirst, pain, restlessness, etc., that are found in cases of abdominal section, and these are not encountered after operating on an abscess in the other and simpler way. It is well enough to search for the appendix by gentle manipulation, and, if it is found without any great difficulty, it should be removed; it is not even necessary to use a ligature if there is any difficulty in applying it, as the opening will be into the abscess cavity and do no harm; should there be any bleeding from its removal, the packing of gauze would control it.

After such operations, says Dr. Davis, there will be a small percentage of cases of recurrent inflammation. If the patient is lost from such an attack, the surgeon is likely to be criticised and to be blamed for not having done a complete operation at the time the abscess was opened, especially if it is the prevailing opinion of leading operators that a radical operation should be done in every case, and for this reason, he says, he wishes to emphasize the great error of such teaching and to advocate the simpler plan.

There can not be much need of breaking up the adhesions, for they give way in a short time after the abscess is relieved; they do not remain permanent, as has been alleged by a number of surgeons. In breaking up these adhesions, in addition to the danger already mentioned, a favorable condition is prepared for fresh adhesion, with the possibility of the bowel being fastened in a position that will produce pain and often obstruction.

There are cases of abscess, says the author, in which it is impossible to evacuate the pus extra-peritoneally, but in such cases we can so completely wall off the peritoneal cavity, while the pus is being evacuated, that there will be no possible escape of the fluid into it. After the abscess is thoroughly cleansed and its cavity packed with gauze, the chances for recovery are good. Still, the gravity of such an operation, he says, is many times greater than that of the operation on an abscess which has become attached to the abdominal wall. It is conceded that there is often a small collection of pus around the appendix, and in cases of early operation for such a condition it is proper to remove the appendix and pack gauze around the field of operation.

Among the large number of operations for appendicular abscess, in which the author and his brother, Dr. W. E. B. Davis, have pursued the plan already outlined, there have been only five cases of recurrence. Should there be a return of the disease, or should pain continue for some time after the patient is able to be up, the appendix ought to be removed. Indeed, says Dr. Davis, a patient should be thoroughly impressed with the importance of not going on without another operation should there be discomfort in the region of the appendix, for such discomfort shows conclusively that the appendix has not been cured, and that there is likely to be another attack which may cause the patient's death. Should there be another attack of inflammation, an operation should be done within the first twelve hours after its onset; if it is not done within that time, a general inflammation may be established which can not be relieved by surgery, although the attack may be a very slight one.

The author states that in the plan advocated by him there would be the risk of losing some patients from a recurrent attack, but that the danger is not to be compared to the fatality which would occur by the general adoption of the radical operation now urged by some of the leading surgeons.

In a discussion before the American Association of Obstetricians and Gynecologists, says the author, Dr. W. E. B. Davis said that, in recommending the breaking up of adhesions and searching for the appendix in cases of appendicular abscess, he thought Dr. Morris and Dr. Price had advocated a dangerous practice, which might be attended with some success in careful and skillful hands, but in the majority of cases would be a dangerous procedure. He thought nothing could be more dangerous than to allow the smallest quantity of the septic pus to escape into the abdomen. If the appendix could not be found by very gentle manipulation, it was better to leave it alone and simply do a life-saving operation. When the abscess healed the intestine was largely freed from adhesions. There was no use in tying off the appendix, as it was destroyed by the inflammatory process. An operation should be resorted to if necessary after recovery from the abscess. In cases of appendicular inflammation in which we could operate early, before the formation of an abscess,

we might do an ideal operation. Dr. Price, he said, had stated that quite frequently the appendix was not found at post mortem examinations. This was explained by the fact that it had sloughed away. The inflammation was so destructive that it destroyed everything within its reach, and it would not do to allow such pus to escape into the general peritoneal cavity. Dr. W. E. B. Davis, says the author, quoted two cases in which a radical operation had been done after evacuation of the abscess, as the appendix had still given trouble.—*New York Med. Jour.*

NOTES : AND : ITEMS

College of Physicians and Surgeons.—The seventeenth commencement exercises of the St. Louis College of Physicians and Surgeons occurred Thursday evening, March 26, at the Germania Theater. The auditorium was filled with friends of the Faculty and graduates, and an interesting programme was presented. Addresses were delivered by Professors Louis Bauer and Arthur E. Mink. The class valedictorian was Dr. J. O. Moore and the address with presentation of diplomas was delivered by Breckenridge Jones, Esq. There were seventy graduates.

Health Officer's Weekly Report.—Chief Sanitary Officer Francis reports the following number of cases of and deaths from contagious diseases during the week ending Saturday, March 21, 1896: Cases of diphtheria, 41, deaths 9; cases of croup 2, deaths 2; cases of scarlatina, 2; cases of typhoid fever, 3; cases of measles, 33; cases of cerebro-spinal fever 1, deaths 1.

The total number of deaths from all causes was 189, compared with 182 for the week preceding, and 168 for the corresponding period of last year. Births reported were 210.

Plants in Sleeping Rooms.—The question as to the effect of plants in sleeping apartments on the health of the occupants would seem to have been satisfactorily determined by recent tests in a London conservatory. In the latter, containing some 6,000 plants, in the middle of the day oxygen had so far increased on the carbon dioxide that out of 10,000 parts chemical examination proved only 1.40 to be carbon dioxide, whereas the normal proportion of the purest air is about four parts in 10,000. After being shut up some twelve hours, the air in the green-house at noon thus proved to be surcharged with oxygen. The same air was analyzed just before sunrise, and the carbonic dioxide had so far gained on the oxygen that the proportion of it was almost exactly four per 10,000. Taking, therefore, the twenty-four hours round, the day is found just about to balance the night.

Missouri Valley Physicians.—The Medical Society of the Missouri Valley met in Atlantic, Iowa, March 19, with an attendance of 100. Among the topics presented were: "Some Ancient Sanitary Rules," by Dr. F. Overholt, Des Moines; "Plodding," by Dr. Stultz, of Wiotia; "Etiology of Typhoid Fever," by Dr. R. E. Conniff, of Sioux City; "Surgical Treatment of Trachoma," by Dr. Harold Gifford, of Omaha. The most pertinent paper of the day was by Dr. George Magridge, of Glenwood, Iowa, being a plea for the State making a provision for a home for the epileptics of the State, some 4,000 in number. These epileptics are now partly taken care of in the County poor houses, State insane asylums and Homes for the Feeble-Minded, but there are over 2,000 in the State unprovided for.

Mailing Disease Germs.—The post-office authorities have decided that if the patent box adopted by the New Jersey Board of Health be used, disease germs may be transmitted through the mails. The description of the box is as follows:

1. It consists of a strong glass bottle having a capacity of three drams. The bottle is provided with a metal screw cap made water tight by means of a rubber washer.
2. The bottle is packed in borated cotton, in a tin box two inches in diameter and four inches long.
3. The whole is then inserted top first, into a second box lined with heavy cotton felt. Both boxes have metal screw caps, with rubber washers to render them water-tight. The outer box is covered on its outside with paper felt, one quarter of an inch in thickness. The whole package weighs twelve ounces, and the postage upon it will therefore be twelve cents.

Missouri Medical College.—With this year the Missouri Medical College instituted a commendable change in regard to the place and character of the commencement exercises. It was decided to conduct the exercises in the large amphitheater of the College building where all the associations were most appropriate and sympathetic. The festivities were in the nature of an "open house" and were enjoyed by all.

The exercises occurred Tuesday evening March 24. After prayer Prof. P. G. Robinson, Dean, presented a diploma to each graduate as his name was called. The roll of honor and prize list was announced by Secretary Whelpley who was followed by Mr. Selden Spencer who delivered the valedictory address on the part of the Faculty.

A general reception with refreshments followed the regular exercises and the guests were conducted on a tour of inspection through the various departments of the well equipped building. There were sixty-one graduates.

Honorary degrees were conferred upon Professors T. F. Prewitt and Selden P. Spencer. *Ad eundem* degrees were also given to the following physicians: D. C. Gamble, J. C. Falk, P. C. Lane, S. A. Lebeau, L. C. Boisliniere, H. W. Hermann and I. B. Perkins.

PUBLISHER'S DEPARTMENT.

ACNE.—Cod Liver Oil is highly recommended especially in the form of Wine of Cod Liver Oil with Peptomate of Iron. The phosphates and hypophosphites may be employed in conjunction with it. Sulphur is also indicated internally and externally. The pustules should be emptied with a needle-knife and the skin bathed in hot water several times a day.

PROFESSIONAL OPINIONS OF INGLUVIN.—Edward Warren (Bey) M.D., C.M.: "Hereafter I shall prescribe 'Ingluvin' liberally and with great confidence in its therapeutic value."

Chas. Low, M.R.D.S.E., etc.: "Medical men will never regret using 'Ingluvin.'"

Edward Cotton, D.N., C.P.P., London: "'Ingluvin' is particularly efficacious in vomiting produced by pregnancy."

Waldo Briggs, M.D.: "I have used 'Ingluvin' extensively and find it far superior to any remedies for Vomiting of Pregnancy, Dyspepsia and Indigestion."

Dr. J. W. Walke, Jr., Winterpock, Va., reports a case as follows: "I received a sample of 'Ingluvin' not long since and it affords me pleasure to say it is a most excellent preparation. I used it in a very obstinate case of Vomiting in Pregnancy and it relieved my patient entirely, while the old remedies used in such cases failed to do any good at all. I cheerfully recommend it to the profession."

A CLINICAL STUDY OF ANTIKAMNIA.—The New York *Medical Record* contains an exhaustive article under the above caption by Samuel Wolfe, A.M., M.D., Physician to the Philadelphia Hospital; Neurologist to the Samaritan Hospital, Philadelphia. He summarizes as follows:

"I feel justified from my experience, to formulate the following conclusions:

"That antikamnia is valuable for reducing temperature in febrile complaints.

"That it is of service in many forms of pain connected with febrile diseases.

"That it has a field of use in rheumatic and gouty affections.

"That in neuralgic and myalgic pains, it is not only palliative, but along with other measures, assists in ultimate cures.

"That in neurasthenia, hysteria and migraine, it is a valuable adjuvant to the other recognized therapeutic measures.

"That in organic nervous diseases, it has a field of application.

"That it is the least depressing of all the drugs that can exercise so extensive a control of pain; and also least disturbing to the digestive and other organic functions." He further states:

"The scientific physician prefers always to treat a cause or condition, rather than a mere symptom. If he can remove pain, by abolishing its cause, he will do so, rather than to blunt the sensory structures so that the pain is not felt. The demand for relief from mere symptoms, however, frequently becomes imperative, and this is especially the case when pain is present. We would cease to respect the physician, who in the presence of an acute agonizing pain, which mechanical or other means could not quickly relieve, who would withhold the hypodermic morphia. On the other hand, we applaud the sentiment which seeks for measures to combat this symptom, carrying with them less of the remote dangers, which are inherent in the frequently repeated and long continued use of opiates."

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MEDICAL REVIEW,

A WEEKLY JOURNAL OF MEDICINE AND SURGERY.

VOL. XXXIII.

ST. LOUIS, APRIL 4, 1896.

NO. 14.

ORIGINAL ARTICLES

Problems of the Twentieth Century.¹

BY JOSEPH EASTMAN, M.D., INDIANAPOLIS, IND.

One need but mention the names of Sir Humphrey Davy and Morton, McDowell and Sims, Virchow and Lister, to prove the proposition that the present century has placed more on the altar of science to bless mankind than all preceding ages. It might seem to the thoughtless drone in our professional hive or to one intoxicated with the surgical triumphs of the century that like Alexander we were now languishing for the want of more worlds to conquer. Those earnestly engaged at the present time with microscope and test-tube in the laboratory, those working in the dead house, or achieving surgical triumphs in the operating room, alike unite in admonishing us that the problems of the twentieth century to be studied, and solved if possible, are vast and intricate.

"Labor with what zeal we will
Something still remains undone,
Something uncompleted still
Waits the rising of the sun."

So, morning dawn, January 1, 1900, will disclose a vast amount of labor yet unfinished, and disease unrelenting, scarcely baffled by medicine or surgery, reaping its annual harvest with the sickle of death—not only this, but worse. Some of the most horrible diseases with which we contend and which have baffled our best efforts are unquestionably on the increase. Patients have repeatedly asked me why it is that they see and hear so much about diseases of which their parents and grand-parents knew little. I have answered that we know of more stars now because we have better telescopes and that our means of investigation are so much better now than formerly. Such statements may do very well as answers to over-anxious patients and friends, and while it is the truth, it is by no means the whole truth. Physical deterioration is the law of ad-

vancing civilization, and in the strife for wealth and power, nervous disease, including insanity, is unquestionably on the increase. Perverted cell action may and often does result in the localized reckless cell proliferation known as cancer. The three most serious problems for our study during the next century will be, 1st, the rapid increase of nervous disease; 2nd, the steady increase of insanity; and 3rd, the fact that the death rate from cancer is constantly increasing in all civilized countries. In sounding an alarm one ought to give a remedy. Would that some giant intellect might suggest methods and means of arresting the rapid increase of nervous disease, which so often brings about a condition worse than death, by dethroning reason in horrid insanity, or enable us to lessen in some measure the increase of cancer with its horrible sequelæ. Thanks to Jenner, we control in a great measure the loathsome pestilence. Thanks to sanitary science, with its hundreds of devout workers, cholera in its recent visit to the port of New York was met with this admonition—"thus far shalt thou go and no farther." Lessening the frequency of neurasthenia, insanity and cancer in any considerable degree would require a reconstruction of our entire civilization, a dethroning of the beastly moloch of fashion, the substitution of education for brain-cramming, and many herculean tasks before which one stands appalled. If we shall be able in the short time allotted to point out the evils in some measure and thereby increase the number now thinking and working in the same direction, it will be all we expect to accomplish.

INCREASE OF NERVOUS DISEASE.

James Russell Lowell once said Americans were the most common-schooled and the least cultivated people in the world. Surely there is much done in our common schools that does not educate, and much more that destroys rather than cultivates the thinking capacity and individuality of the pupil. The brain cramming buckram red tape of our schools enforced by teachers who themselves are often nervous wrecks, like the sausage mill, annihilates the identity of brain and muscle brought within the revolutions of its grinding cylinders. How cruel to overtax the brains of our girls at the critical ages of from ten to fifteen years rendering them unfit for the physical duties of life, especially maternity, while their sunken chests make more apparent their projecting shoulder blades, suggesting the sprouting of

¹President's Address, Mitchell District Medical Society, 1895.

angel's wings and their progression toward the spirit world. The highest functional cavity of each and every organ of the body gives the greatest assurance of development and continued good health of such organs. At the same time there must be accord between brain and muscle, if we would have the digestive, circulatory, respiratory, secretory and excretory systems performing their functions normally. Excessive and prolonged use of mental faculties during the period of their growth brings discord, destroying the normal affinity between the nerve cells and the passing blood stream so that the lecithine is not stored up in the nerve cells to nourish them and maintain the tone of the nervous system.

"By curious art the brain so finely wrought
Preys on itself and is destroyed by thought.
Constant attention wears the active mind,
Blots out its powers and leaves a blank behind."

"The nervous system of a child," says a recent writer, "is very susceptible to permanent injury. To condemn a young creature of delicate organization to daily long hours of brain work at a time when all the vital energy should go towards body development, is a blunder that is little worse than a crime. It is by such forced methods of early education that the neurotic constitution is frequently acquired." This being true, and hearing the pitiful stories of teachers who insist that during the two or three latter months of our nine months city schools the pupils dread their lessons and can not master them near as readily as in the earlier part of the season, we pause and seriously reflect upon the proposition whether or not our so called education, very expensive and much lauded school system, adds to or subtracts from the great sum total of human life and human happiness. These questions are being discussed and ventilated and are having their hearing constantly from the rostrum of the woman's rights conventions and the social economist. The time has come when they should have a hearing from the consulting-room of the physician. We ask ourselves in this day and age of the world where such mothers are to come from as those who gave America a Webster, a Garfield, a Grant and a Lincoln. They had little education but good physical organizations. Echo answers, where? What a loss the world would have sustained had these women as girls been pushed through some of our modern schools and dressed according to the fashions of the day. Of course there yet remain localities remote from great centers of populations with parents so poor that they must raise their girls to work, and whose scanty income forbids them dressing in modern fashion. From these and from foreign countries there still come good muscle and healthy nerves, but with the onward march of civilization the murderous city school and the fashion vender will in due time accomplish their mission. Our foreign women soon become Americanized by getting American

health. Notwithstanding our clergy expound the laws of God against sin and our courts put the death penalty on murder in the first degree, the fashionable sentimentality of the day induces wives to conspire with their husbands, druggists and sometimes their doctor to commit murder, *foul murder*, in the first degree of their offspring's existence. The larger families of our parents and grandparents are no longer seen. Landlords seriously object to renting their tenement houses to people with children, and thus the sickly maudling sentiment which seeks to replace the life-giving music of children's voices with the twitter of caged birds, or satiate maternal love with the companionship of pug-nosed dogs, is at a premium. It is our proud boast that our country is free from the curse of slavery because we turned free a million colored people. There are tens of millions of good women who bear the hallowed name of mother, of wife, of sister or daughter who are being tyrannized over by the great moloch of fashion who, like an exhaust pump, is sucking the life out of them, and doing it so gradually that they don't know what is killing them. A more blighting curse than was ever encompassed by the enslavement of the Southern negro is sweeping over our vast country, hailed and welcomed by modern society. I refer to prevention of conception and the production of abortion.

Dress may do much to make up for the deficiencies of physical development, to add beauty, grace and comeliness to the form. The tinsel of ornament and dress may do much to please the eye, but it can never appease the anguish of ruined health and broken spirit. The waist constricted by corsets and skirts which should be suspended from the shoulders, constricting the diaphragm and crowding it upwards, more in the shape of a half closed parasol than a well developed muscular partition between thorax and abdomen, the powerful development of which, together with its ascent and descent in inspiration and expiration, contributes more largely than any other muscle of the body to the development and maintenance of chest capacity, the great foundation stone of physical or mental endurance.

Would that some Lincoln might issue and enforce an emancipation proclamation relieving women from the tyranny of fashion and opening their eyes to the fact that the originators of fashion have a mercenary motive in view, and not the ultimate happiness of womankind. From a very able article by Prof. Wm. B. Fletcher, of Indianapolis, read before this Society in 1887, I quote: "It was since the dawn of the Christian era that insanity has had its full development, and made such steady growth that within a century and a half it has increased in Christian countries from one in three thousand to one in about five hundred, and is steadily on the increase, until finally we may reach the point, which Mr. Beecher surmised, that we had better build asylums for the sane and let the so called insane manage the world. What are the causes, real or apparent, for this increase of mental derangement and general nervous disorder? Are men changing their physical constitution, with a

¹The literature which many young people read is erotic, neurotic and tomyrotic.

growing tendency to develop organic and functional disease of the nervous system, particularly in the so-called civilized world? I would answer in brief, that we may find sufficient cause if we examine:

- "1. The religious and moral conditions of the people.
- "2. Their education and occupation.
- "3. The accumulations of bad inheritances.
- "4. The modern cultivation of disease, and the meagre means used to suppress it."

By these figures we see that unless a halt is called the time will come when there would not be sane people enough to take care of the insane. From some data obtained from Drs. Thompson and Masters, leading oculists of our city, I learn that the number of children and adults wearing glasses is steadily on the increase. "I find," says Dr. Masters, "that 34 per cent of eye diseases are due to lesions situated behind the cornea or that part of the eye which is best examined with the ophthalmoscope, an instrument which was not invented by Helmholtz until 1851. It was only by the use of this instrument that it was possible to examine the interior of the eyeball and determine the pathological conditions there present. This, of course, gave rise to more careful study of impaired functions and led to a greater number of lesions being discovered. It also led to more careful study of refractory troubles and disturbances of other organs, especially, the brain coming from them. When we stop to think that six of the twelve cranial nerves are distributed to the eyes it is not strange that we should have so many disturbances about the head from weak eyes and unbalanced muscles. It is also not strange that all these conditions should be on the increase since it is only within the last generation that our nation became a reading people. Many of us can remember when the books in the house were few and when daily papers were a luxury enjoyed only by the few, while now books and daily papers find their way into almost every home, so instead of the eyes being used for merely grosser vision, they are now called upon to read fine print. Others engage in fine needle-work or in constant use in new and hitherto unknown mechanics. As a result any defect however slight in the eye demands correction. So we see many persons wearing glasses where formerly we saw few." Here again unless a halt is called, even young people not needing glasses will be the extreme exception to the general rule.

HEREDITY.

In the alarming increase of the numbers with defective vision suffering from nervous disease, insanity and cancer, heredity plays an important part. It so happens that our State Fair is held north of our city. The cattle and horses have been annually taken out Delaware Strett. As I see them passing I note the wonderful results of careful breeding and can not help compare the difference in the brute creation with what I have seen in my many years' service in hospitals and dispensaries. The fact has been well brought out by those engaged

in the study of heredity in connection with the criminal classes and shows conclusively that the degeneracy of our race is in a considerable measure due to the marriage and inter-marriage of criminals, syphilitics, epileptics, drunkards, etc. Among the savages the strong survive but the feeble perish. In the brute creations only the finer specimens are allowed to reproduce their species, but one of the universal tendencies of civilization is a class of beings degraded physically, mentally and morally, whose members recklessly propagate a large per cent of idiots, lunatics, syphilitics and criminals.

In securing a life insurance policy the individual must state truthfully all the diseases he has had. If he makes a false statement the policy is forfeited. O, if the parents could secure from young men such a written contract when life's policy calls for their daughters in wedlock. (The young man's statement need not include diseases caught in the atmosphere of the Sabbath-school room). This can not be, and the purest and best of young women are often induced to marry the young man whose undue flattery and exceedingly fascinating ways bespeak a familiarity with many kinds of women. If a child is born to them it may be as speckled as a coach-dog, with copper colored eruption. The taint in his blood may have come from parents or grandparents long since dead.

"To see how vice its vengeance wreaks
On the frail babe before it speaks,
And how heredity enslaves
With ghostly hands reached forth from graves."

The third problem which must inevitably engage our profession during the coming century is the steady increase of malignant disease. From a lecture delivered November 5, 1894, before the New York Academy of Medicine, by Dr. Joseph D. Bryant, I obtain some very startling, almost appalling statistics. In England from 1865 to 1889 the death rate from cancer to the one thousand living has gone up from 37 one-hundredths to 64 one-hundredths. In London alone the increase was from 50 to 79 one-hundredths. In Berlin (this includes cancer and tumor) the per cent has increased from 1874 to 1892 from 62 to 69 one-hundredths. In Vienna from 1874 to 1890 the increase was from 100 to 123. In Paris from 1886 to 1893 the increase was from 102 to 103. In Munich from 1883 to 1892 the increase was from 98 to 104. In New York from 1874 to 1893 the increase was 40 to 53. In Philadelphia from 1874 to 1893 the increase was from 40 to 55. In Boston from 1874 to 1893 the increase was 31 to 55. In New Orleans from 1874 to 1893 the increase was 42 to 66. In San Francisco from 1874 to 1893 the increase was 27 to 64 one-hundredths.

The conclusions of this very able and important lecture are worthy of our most serious consideration.

1. That the death rate from malignant disease is constantly increasing in all civilized countries.

2. That the death rate is larger in cities, irrespective of the transient affected there, than in the country.

3. That in limited portions of the country, and in some cities, the death rate from malignant disease is strangely and disproportionately large.

4. That this increase of malignant disease demands urgent consideration and prompt logical methods of combat on the part of all concerned.

5. That the post operative prognosis can be attained by proper education of the afflicted and prompter action of the profession.

6. That when consideration of health and strength shall excite the same degree of forethought and vigilance as the attainment of wealth and power does, the post-operative prognosis will be much improved.

My experience abundantly confirms the conclusions which Prof. Bryant appends to his address. It is said that when Mr. Tait opens the abdominal cavity and finds malignant disease he immediately closes the wound and does not disturb the mass. I have at least a dozen living, thinking and talking commendations of such practice. Cancerous tumors of the ovaries I have frequently removed where the pedicles were so long, thus enabling us to go so wide of the disease that years have elapsed and the women remain perfectly well. Mr. Tait, in his book entitled "Diseases of Women and Abdominal Surgery," condemns vaginal extirpation of the uterus for cancer. I could produce many scores of women whose cancerous uteri have been removed, varying in time from twelve years to a few months. They would be my argument, my emphatic protest against such teaching. With reference to cancer of the uterus, where my studies have been more extensive, it must be remembered that the disease is often local, the outgrowth of prolonged localized irritation, and if we shall be able to educate the physician and they the public that uterine cancer may come and destroy its victim with little or no pain; that the menopause should have no phenomena except a symptomless cessation of the flow, and that if she has any other symptoms whatever other than a painless, odorless, harmless cessation of her flow, an expert ought to be consulted and the cause of a deviation from a symptomless cessation of the flow determined, we shall be able to do much to lessen the number of deaths from this horrible malady. I know of no other disease where the importance of early diagnosis should be more emphasized than in uterine cancer.

I would fall short of doing my whole duty were I not to mention the wholesome reaction along certain lines which may in some measure retard the rapid increase of nervous disease, insanity and even cancer. Our Industrial schools and Polytechnic institutions are seeking to cultivate muscle as well as mind—to teach muscle and mind to co-operate, and thus maintain co-ordination and integrity between mind and matter. Even our fashionable people are taking to outdoor exercise. And physical culture is being pushed forward in different directions. The bicycle craze may help us in physical development; while it does not exercise all the muscles

as well as horse-back riding, there is a fascination about this new fad which encourages the idea that "too much rest is rust." Physical exercise without mental restraint is much more valuable than any form of calisthenics under a tutor. From personal observation with young men who rode on hard saddles during the war and men who have ridden on iron saddles attached to our reapers, I am thoroughly convinced that there is danger to the prostate gland of the bicycle rider who leans forward, assuming the shape of the dog licking his meal out of a dinner-pot. Ultimately some good may come from this. The operation of orchietomy suggested and popularized by J. Wm. White, of Philadelphia, may come to their rescue. This may still further popularize the operation until it may become a penalty for crime, as advocated by our great neurologists, Fletcher, Hammond and Everett.

In every city, town and almost every village in this country exists a post of the G. A. R. where veterans who stood shoulder to shoulder in the great conflict between the North and the South meet around their camp fires to recall the times when they were in active duty, and to cultivate such social and fraternal regard for each other as those only can know and appreciate who have been engaged in the hardships of camp, march and of battle. The warfare in which these men were engaged was long since ended, but as time passes on and their heads whiten, their soldierly bearing replaced with the bending form, and as death from time to time thin out their ranks, they seem to draw nearer together and to love each other more and more. Would to God that our great medical army, scattered also in cities, towns and villages and even at cross-roads, would take a lesson from the G. A. R. Would that our army of doctors, whose duty, in the words of Baron Larry in his sharp reply to the First Napoleon, is to save life and not to destroy it, could feel and appreciate more what it is to bear the title of physician. Would that our medical societies would bring physicians together with the same brotherly feelings which pervades the camp fires of the Grand Army of the Republic. Our bedside battle with disease and death is not ended and never can be. A large and well-filled head may succeed well in law or theology, but to be a successful physician the individual must not only have a well-stored mind, but a large heart. To be a great physician he must not only have a large, but a warm, a true and a loving heart. It is immaterial whether we take the view of the anatomist or physiologist that the heart is a mere muscular pump that sends the blood through the circulation, or whether we use the terms heart and soul synonymously, there is something in us that loves and hates, that hopes and dispairs, that makes us generous and fair-minded, narrow, and selfish, envious and jealous.

"Could I but own the Universe
And with one hand hold Heaven in span,
I'd still be measured by my soul,
The soul's the measure of a man."

It is always a misfortune when a little narrow-minded, small-headed, small-hearted man enters the medical profession, because he will be an agitator, not a harmonizer. He will seek to impair a brother physician's usefulness and not to extend it. He will be envious and jealous of his more successful brother. Knowing his inability to climb to success and eminence himself he will seek to drag others down to his level. I am truly grateful that such men are in the extreme minority, and the very large majority of physicians are men of broad minds, large hearts and noble lives. A man's life's work is sure to mould his thinking; his thinking ultimately moulds his countenance. The lasting impressions of our lives were received beneath the clear blue sky of childhood, when our guiding star was the approving twinkle of paternal eye; when the chief luminary of our pathway was the vitalizing sunshine of a mother's countenance, and when every footstep was guided by the subduing influence of a mother's love. Who of us do not remember the face of our parents' family physician, moulded perhaps by many years of thinking at the bedside; a face inviting from its benignity and commanding from its firmness. Who of us can not remember his very step as he entered the sick room where the father, mother, sister or brother lay sick. With what tender emotion he explained to those who had a right to know that there was very little hope. How his big heart seemed to beat rhythmically with the hearts of these stricken with grief. How he returned at the midnight hour instead of retiring to his bed, notwithstanding he was worn out and nothing but the intense anxiety over our loved ones could keep him awake in his saddle or in his buggy. If the deeds of unselfish devotion to duty which are well known all over this land could be crystallized into granite, the obscure resting places of those heroes whose praises have never been sung would be conspicuous with marble shafts towering toward Heaven.

In a book entitled "Beside the Bonny Briar Bush," written by Ian MacLaren, there is a story of a general practitioner in a Scottish village. It is a beautiful story of a noble life ultimately worn out in the service of the patrons he loved and who in return loved him. It tells of his devotion at the bedside of a very sick woman at whose birth he had presided and whose mother he had attended in her last sickness. It tells how the tears rolled down his cheeks as he explained to the husband he was afraid she would die. It tells how he hauled the city surgeon in a cart through the Highland river in a flood, and how Sir George rose from his seat and ordered Dr. MacLure to turn back, declaring that he would be condemned utterly and eternally if he allowed himself to be drowned for any person. MacLure thundered, "Sit down; condemned ye will be sooner or later gin ye shirk yer duty, but through the water ye gang the day." All this in his determination to save the life of a poor cotter's wife. It tells how when the doctors gave up poor Sanders he put him in a bath, staid with him all night, and by the time the sun was peeping in

the window he was so delighted that Sanders was going to recover, his heart was so full of joy that he could break the news to his wife Belle that she would not be a widow nor the bairnies, fatherless, that he flung his coat East, his waist-coat West, as he went out into the garden and danced a highland fling. Further on in the story, when he died a large number of his patients who loved him so dearly gathered at his funeral, coming miles through snow-drifts in midwinter. One of them was heard to say, "The fouk 'ill take man's best wark a' his days without a word an' no dae him honour till he dees. Oh, if they had only githered like this just since when he was livin', an' lat him see he hedna laboured in vain."

Many towns in Indiana have their Dr. MacLures of whom MacLaren could write as much in truth as of the noble Scotchman. Their unselfish lives, their self-sacrificing devotion to their patients in summer's heat, in winter's cold, in storm and in sunshine, could fill many books. Then ought we not to unite as lovingly together as do the member of the Grand Army. The grand army of doctors has a high and holy mission. A former president of this Society, Dr. Elder, was noted all his life as a peace-maker, unselfish, always willing to give liberally of his time and his talents to harmonize, to organize and unite the profession we all love. Those who in cities, towns and villages in their selfish jealousy seek to lower the estimate of the public in a fellow practitioner, who seek to impair his usefulness by word or look of jesture, should remember that the lowering of one member of the brotherhood lowers the entire profession in that community in the estimation of the laity. I well remember the first battle my regiment was engaged in; how a comrade, Johnie Nothrop, was struck in the hip with a shell and killed, and those who stood near him and who loved him, were inclined to scatter. I can still hear the command of Lieutenant White, "Close up the ranks; touch elbows." The ranks of the medical profession are constantly being broken (Dr. Yost, who met with us last December, has returned from visiting his last patient, but still lives in the hearts of those he loved and served. Has lain down his medicine case for the last time and has secured that which the noble physician never enjoys while a call to suffering humanity is pending—a peaceful rest) and we who have borne the battles of professional life must close up the ranks, must touch elbows. We must cultivate that feeling of brotherly love which will enable each and every one to overlook a brother's faults and emphasize his many virtues. If a brother is doing wrong give him due and timely warning that he may ward off approaching danger. Take him by the hand, get near his heart, and lift him up to a higher plane of usefulness, and if he is ever dragged down let it be by someone outside of the profession, and never, never, by one who bears the name of physician.

The hardships and privations of our professional lives indelibly impress upon the tireless worker in medicine the marks of premature old age. Our servitude

should draw us lovingly and sensibly nearer to each other. With us no contention should ever be encouraged except that higher contention, or rather emulation, which seeks to determine how we can best work and how agree. Our life's work is hard enough. "In it cheeks shall turn pale and heads shall whiten; but shall not souls whiten too?"

"We live in deeds not in years; in thought, not breath;

In feelings, not in figures on a dial.

We shall count time by heart-throbs,

For he lives most who thinks the most,

Who feels the noblest, acts the best.

Life is but a means unto an end.

The mean beginnings end to all things, God."

I would that the medical profession would become firm and steadfast in their adherence to ethics, not the ethics so often manipulated by medical politicians to handicap the usefulness of a professional brother. I would have incorporated in it passages from the sermon on the mount including the one "Blessed are the peace-makers, for they shall be called the children of God." I would insist that we have inscribed upon our banner, impressed upon our hearts, and exemplified in our very lives, that foundation of all law, all morals, all religion, all ethics—"Whatsoever ye would that men should do unto you do ye so unto them."

Let us be proud of the medical and surgical triumphs of the century drawing to its close, because they are prophetic of what may be accomplished in the century nearing its dawn, and now in the vital present let us each and every one resolve that we will learn to love and cease to hate; move onward and upward, actuated individually and collectively, by motives worthy our high calling, "with good-will for all and malice toward none."

"If men cared less for wealth and fame,

Cared less for battlefields and glory,

If writ in human hearts and name

Were better than a song or story,

If more instead of nursing pride

Would learn to hate and to abhor it;

And more relied on love as guide

The world would be the better for it.

"If men dealt less in stocks and lands,

And more in deeds and bonds fraternal

If love's work found more willing hands

To link this life to the supernal;

If more stored up love's oil and wine

And on bruised human souls would pour it—

Did yours and mine more oft combine

The world would be the better for it.

"If more would act the play of life

And fewer spoil it in rehearsal

If bigotry would sheath his knife

Till love became more universal;

If custom gray with ages grown

Had fewer blind men to adore it,

And talent shown for truth alone

The world would be the better for it.

"If more were wise in little things

Affecting less in all their dealings,

And hearts had fewer rusty strings

To isolate their kindly feelings;

If more when wrong beat down the right

Would strike together and restore it,

If right made might in every fight

The world would be the better for it."

A Summary of a New Method for the Radical Treatment of Cancer of the Cervix.

BY G. WILEY BROOME, M.D., ST. LOUIS, MO.

1. It is exceedingly rare to see carcinoma of the cervix in a virgin. Indeed it is very doubtful if the disease ever occurs to a cervix which has never been wounded by parturition or instrumentation in some manner or other.

2. A woman to have cancer of her cervix must have borne children and thereby have her cervix lacerated, or the cervix must have been subjected to instrumental manipulation through which an injury to it had been inflicted.

3. A laceration of the cervix may not only act as an exciting cause of carcinoma but that in addition it may furnish the essential matrix of embryonic epithelial cells, for upon the theory that every tumor is the product of tissue proliferation of a congenital or post-natal matrix of embryonic cells, it is not difficult to understand that during the healing of a laceration of the cervix new embryonic cells may become buried in the cicatricial tissue in an immature state and remain in this condition constituting a tumor matrix of post-natal origin.

4. The important role played by a laceration of the cervix in the development of carcinoma can not be overestimated and in every case the lips should be freshened up and the laceration should be united by means of suture at any stage prior to the malignant stage for when a diagnosis of malignancy is satisfactorily established it matters not if the disease covers only a very limited area of the cervix the whole uterus must be removed.

5. In the early stages of carcinoma of the cervix the diagnosis will prove somewhat difficult but ordinarily the following group of symptoms will be present, viz., pain, watery discharge later mixed with blood, fetor. If the patient has lost flesh and sleep the skin may be slightly shrunken and yellow giving the characteristic cachexia.

6. The fact must not be overlooked, however, that

these symptoms are often times fitful in their character and indeed one or several of them may be wanting and in fact may occur in some other conditions and can not therefore be relied upon implicitly for a correct diagnosis. The same remark applies to all text-book description of the symptoms of carcinoma.

7. Examinations must be made by direct inspection of the cervix and by touch.

8. If still in doubt the cervix must be cocaineized and a wedge-shaped portion excised and prepared in the following manner for microscopic examination:

The gross specimen labelled with its number is kept in two per cent formaline. The specimen to be hardened is put in ten per cent.

Formaline	24 hours.
Absolute alcohol	24 hours.
Ether and alcohol	24 hours.
Thin celloidin	24 hours.
Thick celloidin	24 hours.

Mount on glass square put into chloroform and in one-half hour is ready to cut. Stain with Bohmer's hematoxylin and eosin. Dehydrate in alcohol and clear in oil of Bergamot. Mount in Canada balsam.

To keep alcohol absolute, a jar is half filled with lumps of quick lime (it should be very quick) and fill up with alcohol—a piece of filter paper being placed over the quick lime for the specimen to rest on.

The glass squares are ground on one side and before mounting the number is written on the ground side in pencil and the specimen mounted over it. After cutting the section the mounted specimen is kept in eighty per cent alcohol.

Bohmer's hematoxylin (a) Saturated alcoholic solution of hematoxylin; (b) Saturated solution in H₂O of alum.

Drop a into b until a violet color upon shaking. In two weeks is ready for use.

Eosin: Saturated alcoholic solution, few drops in salt cellar, fill up with water. Make fresh each time.

9. Mounted sections illustrating cases. I also show specimens.

No. I.—Name of patient A., aged 50. History, last three months leucorrhœa and blood a little more than menstruation should be. Last two weeks pain in groin and frontal headache.

Specimen from cervix uteri.

Micro-report: Epithelioma.

No. II.—Name, Alt, age 44. History, pain in abdomen last eight or nine weeks.

Specimen: Scrapings from mucous membrane of cervix.

Micro-report: Epithelioma (small cell type).

No. III.—Name, H., aged 44. History, bloody discharge all last Summer, and in Fall increased. Always had leucorrhœa.

Specimen: Uterus and appendages. Piece from cervix which shows cauliflower growth on mucous membrane.

Micro-report: Carcinoma.

No. IV.—Name, G., aged 32. History, married 15

years. Six children. Last 6½ years ago. Bilateral laceration of cervix. Perineum torn to sphincter.

Specimen: Indurated cervix.

Micro-report: Cervicitis, extending into the muscular wall. The mucous membrane being replaced by granulation tissue. There is also a fragment of a dermoid cyst, but no evidence of malignancy.

No. V.—Name B., aged 48. History, in January flow began to be bloody and continued each day till 10 days ago. No pain.

Specimen: Curettage from endometrium.

Micro-report: Adeno-carcinoma.

19. In the future the surgeon for many reasons will have to make these microscopic investigations himself. Every surgeon I dare say has experienced a feeling of hesitancy to institute heroic measures of treatment on the report of the so-called pathologist. In self defense therefore I repeat and on the grounds of responsibility and good conscience the surgeon must do the work himself.

11. The ideal and most radical plan of performing a hysterectomy is through the abdomen for by that method we are enabled to expose and remove a wide area of the broad ligament; to expose to view the blood vessels going to the uterus and to ligate them several inches away from that organ. Also to remove a considerable cuff from the vagina, and last to bring in proper apposition by suture the surfaces of the utero-vesical and rectal folds. Furthermore, since Dr. Kelley has shown us how simple it is to avoid wounding the ureters by introducing bougies before undertaking an abdominal hysterectomy the great danger in cutting or ligating these tubes and entailing consequences which are dreadful to contemplate is a circumstance of the past for through his remarkable skill and genius the ureters thus intubated are made to serve as valuable guides to the more extensive extirpation, with the uterus, of the adjacent tissue, without harm.

12. Curettage of the uterus for carcinoma should have no place in curative measures. The procedure is unsurgical and can prove of no benefit to the patient, but necessarily entails irreparable damage and often hastens the death of the patient. Recently a number of cases of malignant disease of the uterus in which the curette had been used have come under my observation in which the baneful effects of this barbarous instrument were clearly apparent. There is no difference in the real nature of the malignant process whether it is found in the face, mammary gland or the uterus, and yet where is the scientific surgeon of to-day who would use the curette in an epithelioma of the face, tongue or a carcinoma of the mammary gland; and since the real character of the disease is the same everywhere why the uterus should be made the victim of this otherwise unsurgical practice is hard to account for such a course of practice except upon the idea that these members of the profession approach an operation in these cases impressed with the view that real cure is practically hopeless, although in their judgment something must be done and

the curette is resorted to with which to do that something. But what is the sequel? The patient in a little while finds herself in a worse condition than ever. She has lost faith in the methods of treating cancer of the regular surgical craft and in her desperation seeks aid from the so-called cancer specialists whose promises are full of hope and encouragement, for these specialists exist everywhere and fatten on the credulity of hundreds of these despondent and desperate sufferers.

18. If a primary carcinoma of the cervix is recognized early, and the radical measures above outlined instituted promptly, and the patient is subsequently and for several months continuously subjected to regular injections of the toxins of erysipelas and prodigious, from my clinical observation and experimental knowledge, I am firmly convinced that a permanent cure can be effected.

Tuberculous Affections of the Heart—

Leyden (*Deut. med. Woch.*) concludes a study on this subject. There are three forms of cardiac tuberculosis according as it affects the heart muscle, the endocardium, or clots present in the auricle and ventricle. After giving a historical sketch of each of these forms the author describes: (1) Tubercle in the cardiac muscle is rarely found. The presence of the tubercle bacillus in such tuberculous foci has been demonstrated on several occasions. Apart from the actual deposit of tubercle, the heart muscle may undergo fatty degeneration in tuberculosis. Fragmentation of the muscle fibres as well as brown atrophy has also been observed by the author, but cardiac fibrosis is rare, and may even then own some other cause. (2) The valves are not infrequently diseased in phthisis, but usually the valvular lesion has existed before the tuberculosis. Thus in the author's cases the valvular disease could not always be attributed to tubercle. Occasionally the endocarditis is recent. In one such case the streptococcus was alone found. In four other cases examined bacteriologically by Michaelis tubercle bacilli were found in the valves or endocardium. The bacilli were generally seen to be contained in cells. (3) In one of the author's cases Michaelis found the tubercle bacillus in the substance of an ante mortem clot in the heart. Leyden draws special attention to the presence of living bacilli within the cells, and he thinks that such cells may be transported elsewhere and form new foci of tubercle. The presence of tubercle bacilli in the clots he would explain by the penetration of bacillus containing leucocytes into them. He thinks that the fibrinous exudation in pneumonia may under certain conditions be invaded by cells containing the tubercle bacillus, and that thus a genuine pneumonia may pass into a caseating or tuberculous pneumonia. Details are appended of some of the cases observed by the author.—*Brit. Med. Jour.*

MEDICAL REVIEW.

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PUBLISHED UNDER THE AUSPICES OF THE
MEDICAL REVIEW ASSOCIATION

By O. H. DREYER.

YEARLY SUBSCRIPTION, \$3.50. SINGLE COPIES, 10 Cents.

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The Active Principle in Thyroid Treatment.

The epoch-marking therapeutic advances made by the discovery of well known antitoxins and based upon scientific experiments having their origin, as Behring claims, in the series of laboratory researches connected with the manufacture, purification and scientific application of tuberculin, form one type of modern therapeutic results. Another important type is represented by those exact investigations by which, after a remedy has been empirically, or by accident, discovered, the exact cause of a disease and the action of its respective remedy is explained. Representative of the latter type are the researches leading to the discovery of the malaria plasmodium and to the exact determination of the action of the specific antimalaria remedy—quinia. To this type belongs also, at least in a certain sense, a recent important discovery of Baumann, a well-known chemist of Freiburg, that the active principles in thyroid treatment is an organic compound of iodine, a constituent of the thyroid gland, which he has named Thyrojojin.

In malaria the cause is an organized animal cell, an amoeba, and the remedy an organic vegetable substance, the alkaloid quinia; in goitre, myxedema and cretinism the cause is represented by the absence of an organic chemical combination, the remedy consisting in the supply of the absent, or partially absent, material. The resemblance of the two discoveries consists, therefore, only in the fact that both remedies were known empirically before their action was explained upon an exact and purely scientific basis or, as in the case of thyro-jodin, the chemical nature of the remedy satisfactorily and conclusively determined.

Baumann claims that the absence of thyro-jodin is the cause of certain diseases of the thyroid gland, such as goitre, myxedema and cretinism and that he, with the co-operation of Roos, has obtained excellent results in the treatment of goitre with thyro-jodin, which he has used in a quantity representing one thousand thyroid glands of sheep. According to Baumann thyro-jodin is a very stable chemical compound, containing in its purest state more than 9.3 per cent of iodine. It is prepared by boiling the glands in 10 per cent sulphuric acid. For purification it is treated with alcohol and one per cent caustic soda and repeated precipitation with dilute sulphuric acid, when a brown, amorphous substance remains whose weight is from 0.2 to 0.5 per cent of that of the fresh gland. This substance Baumann believes to represent approximately all the active principle of the gland. When this substance is reduced to ash with caustic soda and potassium nitrate, the residue dissolved in water, nitric acid added and then shaken up with chloroform, the latter is colored violet, showing the presence of iodine. The substance does not react upon the tests for albumin, but contains small amounts of phosphoric acid in organic combination. It is almost insoluble in water, slightly soluble in alcohol. It is readily dissolved by dilute alkaline solutions, from which it is precipitated by acids.

The presence of thyro-jodin in the human thyroid has been demonstrated by Baumann; it was also found in the thyroid gland of the pig, where it exists in smaller quantity, however, than in sheep. The beneficial effect of iodine treatment in goitre finds an explanation in the fact that thyroid extract contains a large percentage of iodine.

That this element has not been discovered sooner as a constituent of the thyroid gland seems very strange, but finds a partial explanation in the fact that the chemist Tschirsch, upon Kocher's suggestion incinerated the gland and failed to find iodine in the ashes and that other chemists, relying upon the result obtained by Tschirsch did not investigate the matter. Kocher had found that the effect of iodine in the treatment of diseases of the thyroid gland compared favorably with that of thyroid extract and had consequently conceived the idea that iodine might be a constituent of the thyroid gland.

If Baumann's discovery will be verified by other investigators with reference to his thyro-jodin being the

active principle in thyroid treatment, the discovery may be looked upon as one of the most important achievements in modern therapy. The treatment of diseases of the thyroid gland would be much simplified and placed upon a strictly scientific basis in consequence of the isolation of this newly discovered compound of iodine. The discovery may also pave the way to the detection of other active principles in the field of organo-therapy; it may, moreover, greatly facilitate the interpretation of certain processes of metabolism in which the thyroid gland appears to play an all-important role.

The Use of Roentgen's Rays at Washington University.

A complete outfit for the purpose of photography by means of Roentgen's rays has been secured for the Faculty of the St. Louis Medical College, and a series of experiments for diagnostic purposes have for some time been conducted by Prof. C. R. Sanger, of the Washington University.

The very powerful induction coil, used in the experiments, was made in Boston; the Crooke's tube was manufactured in St. Louis.

One of the patients subjected to the new diagnostic method was Dr. Orr, of this city. Last summer Dr. Orr was experimenting with a compound of hydrogen, which was contained in a glass bulb at high pressure. The bulb burst in his hand and the doctor suspected ever since that a piece of glass had lodged in his hand. His frequent attempts of locating the foreign substance were unsuccessful. The photograph secured by the Roentgen process shows that there is a particle of some foreign matter imbedded between the third and fourth fingers, which is in all probability a portion of the glass bulb.

The second case was that of a little girl named Winifred Smith, of Duquoin, Ill. Winifred fell down last September and broke her right arm at the elbow. The arm was set, but for some reason the little girl has since had but little use of the member. The photograph taken Wednesday showed that the shank of the upper arm had been fractured, and that the arm had also been dislocated.

The third case is that of a lady brought here from Illinois by her physician. Seventeen years ago she stepped on a piece of glass, which lodged in the foot. The foot has been useless for more than twelve years. Three photographs have been taken of the member. Though the bones of the foot were shown to be in an abnormal condition, it will probably be necessary to take a number of negatives before it is definitely determined just where the glass is.

A fourth case, more purely experimental, was that of an old bone felon on the thumb. The wearing away of the bone was shown distinctly in the photograph.

The Washington University deserves credit for the

prompt practical application of the new discovery in the surgical clinics of its medical department, the St. Louis Medical College.

Exhibition of Pharmaceutical Preparations Made by the Students of the St. Louis College of Pharmacy.

It is a most commendable custom of the St. Louis College of Pharmacy to exhibit the work of its students for the purpose of demonstrating to those interested in pharmaceutical progress the value of a thorough practical training in the preparation of the many medicines which pharmacists may be called upon to prepare. The practical work which is accomplished in pharmaceutical laboratories can not be overestimated. In colleges of pharmacy as well as in medical colleges the practical work done in the laboratories, resp. clinics, is the best indication of the quality of the institution. Ever and anon we hear or read of statements belittling the importance of a pharmaceutical education, statements that are based upon the undeniable and generally admitted phenomenon that modern therapeutics are growing simpler, and that the manufacture of remedies is taken more and more out of the hands of pharmacists. While there is a grain of truth in this argument, we firmly believe that education of pharmacist should not be neglected, on the contrary, its standard should be as high as circumstances permit, so that in the adaptation to new surroundings the pharmacist may keep pace with modern advance. The demands upon pharmaceutical education and skill will increase with general scientific progress, and it may be predicted with some degree of certainty that the pharmacist of the future will have to be an expert in bacteriology, with a special training for the manufacture of antitoxins, as well as a skillful chemist, in addition to his present multiplicity of pharmaceutical acquisitions.

The enterprise of manufacturers and the growing number of specialties in chemical industry, or the creation of new sciences, like that of bacteriology, will never make the well-informed, well-trained and conscientious pharmacist a superfluous member of society as might be inferred from the extravagant statements of some would-be reformers. Pharmacy will grow and adapt itself to new surroundings. The dignity of its mission will remain the equal of that of any other profession.

* *

Anent the recent public exhibition of preparations at the College Laboratory it remains to be stated that it consisted of three sections, of which the first contained 720 pharmaceutical and chemical preparations; every two students furnishing 24. In the second department medicines were exhibited which had been prepared according to the prescriptions of physicians. The third consisted of elixirs and was the work of second-year students; the preparations of departments one and two representing the skill of the seniors.

The leading spirit of the exhibition is Prof. Francis Hemm, a member of the Faculty of the St. Louis College of Pharmacy who, as well as all the other well-known Faculty members, Professors J. M. Good, O. A. Wall, H. M. Whelpley, Hinrichs and, above all, Chas. O. Curtman, formerly member of the Faculty, deserves great credit for his untiring efforts in the interest of pharmaceutical education.

TRANSLATIONS.

BY EDGAR THOMPSON, M.D.

The Parasitic Theory of Carcinomas and Other Tumors.—The present status of this theory has recently been reviewed in the *Russian Archives of Pathology* by Prof. V. v. Podwyssotzky who was probably the first to propose the theory (*La Presse Médicale*). The present conflict is about the etiology of tumors; whether they are parasitic or not.

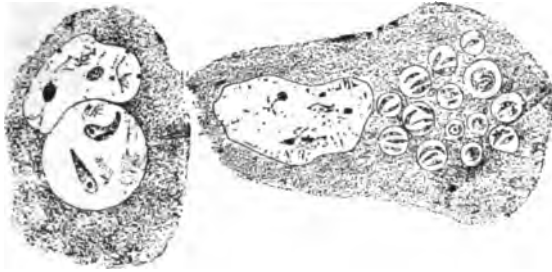
In the mind of the author many facts are found in vegetable and animal pathology which seem, *a priori*, to justify the new theory. One sees, for example, that large excoriations develop on plants at points which have been punctured by certain parasites. The nutgalls on oak trees and the rosegalls are good examples. In animal pathology is found the list of parablasic tumors, termed granulomas, which are produced by recognized micro organisms of diverse natures as the bacilli of leprosy, tuberculosis, syphilis and the parasite of actinomycosis. These parasites cause a local hypernutrition and a cellular hypertrophy and hyperplasia; it may be by mechanical agencies or through a special secretion. Certain parasites cause, in some animals, an adenoid proliferation of epithelial tissue and this is especially found in the biliary ducts of the rabbit.

Great difficulty is experienced in the study of the cancer parasite on account of its small size and of the necessity of special stains. When the specimen is properly prepared the author insists that the parasite is easily seen in the degraded cancerous cells. These intra-cellular parasites are fusiform in shape, mobile, and according to their morphology are protozoans. The author has traced out a life-history of these parasites and the cycle distinct from and uninfluenced by the cells in which they lie. When observed under favorable conditions the author and others have seen the parasites as living mobile bodies.

Santchenko has found the parasite inside the microscopic vesicular degenerations found in epitheliomas. These minute mucoid vesicles are formed by the dissolution caused by the parasite in the same manner that milliary tubercles liquefy in the center. In this small cavity lies the parasite.

The parasite is protoplasmic and has no envelope but has a nucleus which takes up and fixes stains. It is biologically similar to the plasmodium of malaria.

The cut represents the latest micro-photographs of the parasite which are the nucleated, pisiform, minute bodies in the cyst-like cavities.



The author proposes to call these parasites "cytozoons" or "neoplastic hystozoons." The theory of the author is confirmed, to a very great degree, by the discovery, by Neisser, of the parasite of *molluscum contagiosum*. He demonstrated the parasite in sections treated with osmic acid and palladium chloride.

The morphological classification of these protoplasmic parasites can not yet be scientifically made.

The Effects of Lactation on Menstruation and Fecundation.—Leonard Remfry reported to the Obstetrical Society of Londres his investigations of the verity or falsity of the popular belief that lactation prevents conception (*Revue Internationale*, March 10, 1896).

The remarkable functional relation between the breasts and uterus gives evident grounds for such a belief. During the period of active mammary secretion the menstrual function is ordinarily suppressed and when the mother ceases to nurse her child the monthly function promptly returns. Again, proper lactation is a necessary factor to perfect involution of the uterus and the complex symptoms of subinvolution are commonly experienced by those who can not or will not nurse, as a duty, their offspring. Subinvolution is, also, much more common after premature confinements than after deliveries at full term, and the extent of the subinvolution is proportioned to the greater or less amount of lactation—the more abundant the mammary secretion, the more perfect is the involution. The author also notes the severe reflex uterine contraction set up by placing the infant to the breast.

The intimate connection between the breasts and uterus is eminently shown by the observations of Glauvin, who attributed miscarriages to the energetic uterine contractions caused by placing an infant at the breast during the early months of pregnancy.

The normal amenorrhea during lactation is due to the reflex anemia of the mucous membrane of the uterus and to the arrest of development of mucous tissue.

The author questioned a large number of women on the following points:

1. The number of pregnancies.
2. Number of children nursed at the breast, and the time of weaning.

3. If there was amenorrhea during lactation and when the menstrual function was re-established.

4. If a second conception occurred during lactation.

5. If the menstruation was regular.

Nine hundred complete and reasonably accurate answers were obtained.

In 502 cases there was amenorrhea while lactation continued, while in 388 cases there was more or less evidence of a return of menstruation. This gives a ratio of 57 per cent of amenorrhea, 226 of the 388 women, in whom the menstruation returned before lactation ceased became pregnant while the child was still nursed.

In 245 cases the menstruation was resumed in a normal regularity, while in 143 cases it was irregular.

In the 502 cases with amenorrhea during lactation only 29 fecundations occurred before weaning, or 6 per cent. In the 388 cases associated with menstruation 226 pregnancies occurred, or 60 per cent.

From these facts it can be observed that amenorrhea is the real factor.

The author draws the following conclusions:

1. Fifty-seven per cent of the women who nourished their children had amenorrhea.
2. Forty-three per cent had menstruated irregularly and twenty-six per cent regularly.
3. Conception is hindered more or less by lactation, but not to the extent of proper belief.
4. The chance of conception when there is amenorrhea is only six per cent.
5. The ratio of fecundations when there is menstruation during lactation is sixty per cent.
6. The more regular the menstruation, the more probable will be a conception.
7. The menstrual function returns during the first six months if the child has not been nourished at the breast.

MEDICAL & SOCIETIES

PROCEEDINGS OF THE ST. LOUIS MEDICAL SOCIETY.

W. H. FUCHS, M.D., EDITOR.

Stated meeting, Saturday evening, March 7, 1896; the President, W. H. MOORE, M.D., in the chair.

DR. A. H. MEISENBACH presented a patient to show the result of a

Bassini Operation for Inguinal Hernia.

The hernia was of recent origin and was probably produced by sudden, heavy lifting. This act was followed by slight pain in the right inguinal region, but

the patient continued to move about and carried coal on the following day. The pain increased in severity; the patient was obliged to go to bed, and he called his family physician. Examination at this time, January 7, revealed a tumor in the right groin, pyriform in shape and extending down into the scrotum. The base of the mass was directed down in the scrotum while the apex was at the inguinal ring. There was no impulse present, and all symptoms of strangulation were absent. A diagnosis of hernia was made, but the patient was apparently comfortable, so that operation was postponed until other symptoms should have developed.

Two days later, on January 9, speaker was informed that the patient was feeling badly, the pain having increased and a tendency to vomiting having developed. The character of the tumor had also changed. Instead of being pyriform in shape it had assumed the ovoid form characteristic of hernia, and instead of sharp constriction at the inguinal opening there existed a diffuse enlargement.

Operation confirmed the diagnosis. A knuckle of bowel had descended into the scrotum, but the constriction had not been so complete as to produce a gangrenous condition. The bowel was readily liberated, the normal circulation became rapidly re-established and it was returned into the abdomen. The operation was completed according to the method of Bassini. In order to insure a firm closure of the new inguinal canal it was sutured in its entirety, so as to secure primary union, but a median incision was made through the abdominal wall in order to drain the peritoneal cavity perfectly. Gauze strips were used for this purpose and they were allowed to remain 48 hours, when they had served their purpose well. The abdominal sutures were then drawn tightly so that the edges of the wound became exactly approximated. The result of the operation seems to justify this step, and speaker said he would do it again if occasion should arise.

DR. J. C. MULHALL.—When did you operate?

DR. MEISENBACH.—I operated on January eleventh.

DR. MULHALL.—Why do you call it a radical cure?

DR. MEISENBACH said he based his prognosis upon the history of these cases. The Bassini method was published only about four years ago, but Basini has done the operation many years, and reports only about five per cent of failures. If ever a radical cure has been accomplished by his operation this case should be one.

•••

DR. PAUL PAQUIN read a paper entitled

The Principle of Sero Therapy in Tuberculosis and Other Diseases,

and presented a number of charts, being drawings of microscopical specimens, illustrating the globulocidal effect of plain and immunized animal serum upon human blood; and also the number of tubercle bacilli in the sputum of patients with pulmonary tuberculosis. These latter specimens were made at various periods in the treatment with anti tubercle serum, and they were ac-

companied by temperature curves showing a direct relationship between the number of bacilli found and the rise in the temperature; that is, the greater the number of bacilli the higher was the temperature.

The discussion of the subject was postponed until the next meeting.

ABSTRACTS

MEDICINE.

The Transmission of Microbian Diseases by Books.—The *Presse Medicale* for February 1 contains an abstract of an article on this subject by M. Du Qazal and M. Catrin which was published in the *Annales de l'Institut Pasteur*, 1895, No. 12. This, says the writer, is an hygienic question which demands our best attention. A more exact knowledge of the nature of diseases at the present time makes it the duty of the physician to explain their etiology and to call the attention of the authorities to the defects in official reports. This, he says, is what the authors have done in regard to this special mode of condition.

In regard to the question as to whether books contained microbes or not, particularly pathogenic microbes, the authors made some experiments with different parts of new books or with old ones that had been in use in the hospitals. The first series of experiments showed that new books were not aseptic, although they did not contain the pathogenic microbes which were found in the old books.

The second series of experiments related to the transmission of diseases by books, and to the different pathogenic agents, such as the streptococcus, the pneumococcus, and the bacilli of diphtheria, of typhus, and of tuberculosis. The results were positive in regard to the first three varieties, and negative as to the others, particularly with Koch's bacillus, as it had been impossible to transmit tuberculosis to animals with the paper, however charged it had been with this bacillus.

The authors had followed these experiments with investigations concerning the easy and complete disinfection of books, as their destruction by fire was such a radical procedure that it could not be resorted to, except in cases of absolute necessity or when other means failed.

Disinfection by means of the autoclave is perfect so far as the destruction of the microbe is concerned, but it spoils the bindings of books; those, however, that are only loosely bound, without covers, do not show any trace of the process of disinfection.

The excellent work, says the writer, establishes experimentally the reality of contagion by transmission from books, and the possibility of suppressing the danger.—*N. Y. Med. Jour.*

The Treatment of Acute Articular Rheumatism.—In *L'Union Médicale* of November 2, 1895, is an article on this subject of considerable interest. The author considers that salicylate of sodium is practically a specific, and recalls the fact that Dujardin Beaumetz was in the habit of administering every two hours very large doses of the drug, preferring massive doses to its fractional administration, and believing that it was best given in syrup diluted with a copious drink taken at the same time. The most favorable time for the administration of these large doses of the salicylates is at night, as by this means the inconvenient concomitant effects (such as ringing in the ears, and the sweats) are largely escaped by the patient going to sleep. The dose is to be repeated every twenty-four hours, being given twice with an hour interval. Usually the desired effects are obtained after as much as 60 to 120 grains are given. The author does not consider that the presence of endocarditis or pericarditis contra-indicates the employment of these large doses; the only contra-indications are the untoward effects which are commonly seen in connection with the ears and skin. A general contra-indication, however, in acute articular rheumatism, is inactivity of the kidneys, particularly in pregnancy and in those cases in which the rheumatism is accompanied by albuminuria.

Mention is made of the fact that Weiss has highly recommended the method of Bourget of using salicylic acid in an ointment about the inflamed joints. This ointment generally consists of salicylic acid, lanolin, and turpentine, of each $2\frac{1}{2}$ drachms, and lard 3 ounces. This is placed about the joint and rubbed in as vigorously as the pain will allow, and the part is then bandaged with flannel. If for any reason salicylate of sodium or salicylic acid can not be employed, it is recommended that pills composed as follows shall be administered:

R_x Salophen, ... grs. ij.
 Extract of gentian, ... gr. ss.
 Liquorice powder, sufficient to make 1 pill.

Five of these pills are to be given in the morning and five at night.

Attention is again called to the fact that the greatest care must be used in the administration of salicylic acid to pregnant women and in albuminuria, and it is thought best under these circumstances to substitute antipyrin for it, particularly if the pain is severe. Mention is made of exalgine, but it does not receive very favorable consideration. Hot baths are sometimes of value if the patient is strong enough to stand them; they nearly always bring relief of pain and cause sleep, but on the other hand they may produce exhausting sweats.—*The Therapeutic Gazette*.

The Relationship Between Auto-Intoxication and Neurasthenia.—According to *The Practitioner* Dr. Alvis Pick accepts Baumann's discovery of the presence of certain aromatic bodies (indol, scatol, paracresol, phenol, etc.) in the urine of man and some animals, and discusses at length their mode of

production in the body. Indol, which he takes as a type, is found in such conditions as intestinal obstruction, atony, paralysis, etc. It is eliminated partly in the feces and partly in the urine. These bodies act as poisons in the blood and produce auto-intoxication. The manner in which auto-intoxication is modified or prevented is next discussed, stress being laid on the anti putrefactive properties of the HCl in the gastric juice. The biliary and pancreatic juices also have a preventive property, so also have the fatty acids, resulting from splitting up the carbohydrates. If these natural safeguards fail, blood poisoning results. Uremia is possibly a form of auto-intoxication. Possibly this may result from an excess of normal urinary constituents, but von Noorden states that uremic poisons do not exist in the normal constituents, "but that, primarily from reaction upon the tissue in retention, opportunity is given for the production of poisonous substances from natural metabolic products." The author next discusses the *modus operandi* of certain articles of food (shellfish, strawberries, etc.) on some persons as poisons. There is reflex action, but this is the path of morbid action, not its cause. There must be (1) individual predisposition; (2) poison introduced into the blood from (a) improper ingesta (decomposing sausage, fish, etc.), or (b) it may originate in the intestine from the combined action of putrefaction and certain micro-organisms. Similar symptoms may arise from such drugs as antipyrin, iodoform, etc. In these cases the skin is often affected (erythema, urticaria, etc.), but other organs are also affected. Hence some cases of pernicious anemia originating in gastrectasy may be cured by lavage of the stomach. Auto-infection produces marked nervous phenomena, which may be classified thus:

1. Giddiness; sometimes a true vertigo *a stomacho leso*.
2. Headache; this is common in habitual constipation with urine loaded with indican.
3. Heaviness and sense of pressure on head.
4. Cerebral vomiting due to poisoning of the medulla.
5. Convulsions. The author had a patient who had convulsions soon after meals and was cured by antifermentative treatment.
6. Psychical disturbances. Delirium with normal pulse and temperature. Insanity is often associated with obstipation and is relieved when this is cured. Irritable temper and hypochondriasis are other symptoms.
7. Peripheral nervous symptoms, such as tremor. There may be all the symptoms of Basedow's disease, and the author believes that this affection may sometimes originate in auto-intoxication. These symptoms, which may arise singly, in association, or one after the other, afford a picture of true neurasthenia, and Pick believes that many, though not all, cases of neurasthenia originate in auto-intoxication. The author refers to the most frequently alleged causes of auto-intoxication—*e. g.*, over-fatigue, sexual excesses, normal anxiety, etc.;

and adds that the disease is more common among indolent than among energetic persons. He next discusses the pathogeny of auto-intoxication, and says that in medicine it plays a similar role to wound infection in surgery. In the third article treatment is discussed. Diet is of most importance. Food rich in albumin and carbohydrates should be given, and milk is very useful. Generally a mixed diet of eggs, flesh, milk, vegetables, and farinaceous food is to be recommended. Therapeutics are directed by etiological considerations. Sluggish gastric movements should be stimulated by massage, electrical abdominal sponging, douching, etc. Internal antisepsis should be aimed at, and calomel (*gr. ss. ter in die*) is useful in this way. The intestinal tract must be kept clear by purgatives, lavage, massage, etc. Antifermentatives, such as creosote, menthol, guaiacol, phenol, etc., are advisable.—*Medical Record*.

The Pathology of Appendicitis.—Professor Dieulafoy asserts that recent experiments by Dr. Rendu on appendicitis confirm his already formulated views on the pathology of this affection, which are as follows (*Lancet*): Appendicitis is always the result of the conversion of the appendicular canal into a closed cavity, the closure taking place at any point in its length. Partial obliteration with resulting transformation into a closed sac is due to the progressive formation of a calculus more or less hard in consistence in proportion to the admixture in greater or less quantity of lime and magnesium salts to organic and stercoral ingredients. This calculus does not originate in the cecum, but is the product of a true appendicular lithiasis comparable with biliary and renal lithiasis. The co-existence of these three lithiasis in the same family and their hereditary origin has often been remarked. Another cause of the obliteration of the appendix is local infection quite analogous with a similar obliteration of the bile duct in catarrhal icterus. In certain cases a fibrous stricture similar to an urethral stricture results in the shutting off of the appendix. The symptoms of mild or serious appendicitis reveal themselves only when the appendicular canal is converted into a closed sac; then the germs normally present in the appendix, inoffensive up to that time, multiply and become more virulent. Thus is constituted a highly dangerous focus of infection, the principal microorganisms present being the coli bacillus and the streptococcus (a fact verified many times by Professor Dieulafoy and his interne, M. Kahn). The virulence of the appendicitis may of itself suffice to kill the patient while the peritoneal symptoms are quite subsidiary. In other instances the infection spreads to the peritoneum despite the absence of any perforation of the appendix; any variety of peritonitis may be developed (generalized, encysted, acute septicemia, and peritoneal abscess *a distance*). Then, again, peritonitis may be set up by perforation. It would then appear that until the normal canal of the appendix is converted into a closed cavity the symptoms of appendicitis are not present, and until this event has taken place we

have no means of discovering the existence of a process which will infallibly result, some day, in an attack of that formidable disease.—*Medical Record*.

SURGERY.

An Unusual Case of Gunshot Wound of the Cervical Spine.—An interesting case of paralysis following a gunshot wound of the cervical spinal region recently occurred in my practice.

The first peculiarity was in its origin. Paradoxical though it may seem, the innocent cause of the disaster was our justice of the peace, who, filled with righteous indignation at the depredations of his neighbor's chickens, proceed to administer summary justice to them without waiting for the minor technicalities of the law. Perhaps he knew too well these often block the course of justice.

His weapon was a navy revolver of 38 calibre. The second peculiarity now appears, viz.: One of the bullets missed the chickens, turned round the corner of an adjacent building, and hit my patient, one hundred yards distant, squarely in the neck.

As a possible explanation of this eccentric procedure, I might mention the justice suffers slightly with strabismus, or possibly the chicken may have been tough enough to deflect the bullet; but I realize modern medicine wants facts, not theory, so I will simply record the fact that the bullet described a very devious course.

And this brings us to the third peculiarity. The bullet penetrated the neck of my patient and he lived to receive the kindly ministrations of the justice, who, in lieu of a trained nurse, relinquished his judicial function for those of a good Samaritan.

The accident happened August 9, at 6:15 P.M. Patient, T. E., aged 20. The ball entered the right side of the neck on a level with the upper border of the thyroid cartilage, immediately over the carotid artery, and I found and removed it from the opposite shoulder midway between the spine and the acromion, on the upper border of the trapezius muscle. He was unconscious of the wound, but complained of violent pains in all his extremities, requiring a hydermic to relieve them. Strange to relate, the ball picked its way through the intricate anatomical structures of this region, without serious injury save to the spinal column; a body of one of the cervical vertebræ evidently was penetrated or injured, as the subsequent symptoms proved. I found the entire left lower extremity cold and paralyzed; sensation slightly present. The right lower extremity was not paralyzed, but sensation was markedly diminished. The upper extremities were partially paralyzed in motion and sensation—total loss of power in left hand and partial loss in right. Continued sharp pains in all the limbs, and also in the intercostal nerves of the left side were present. Pain was felt along the whole spine to the cervical region. Paralysis of bladder existed.

DIAGNOSIS.—I saw immediately that the ball had injured the spine, and had produced either a fracture, with pressure on the cord, or else hemorrhage into the spinal canal, with consequent pressure. The neck could be moved freely without pain, and manipulation of the cervical spine gave no evidence of fracture, but the subsequent history of the case confirmed the diagnosis of blood clot.

The character of the symptoms located this to a certain extent. The motor paralysis was on the left side; the anterior roots of the spinal nerves on the left side was therefore pressed upon. After eliminating the effect of shock, which lasted a few hours, loss of sensation on both sides showed some pressure on the posterior roots of the spinal nerves, both right and left. There being little motor paralysis on the right side, showed the clot to be mostly on the left side of the canal, also extending somewhat backward, involving the posterior roots of the spinal nerves, as sensation was affected on both sides. The greatest pressure was in the lumbar region on the left side, involving the left anterior roots or motor nerves forming the sacral plexus, causing paralysis in the left leg. The subsequent history was as follows: August 10 and 11, the pain persisted, requiring anodynes. August 12 the pain in the left leg abated somewhat and was followed by numbness. Patient could distinguish different toes by touch; no motion. August 13 less pain; urinated spontaneously for the first time since accident. August 14 regaining sensation in right lower limb. The temperature was $101\frac{1}{2}^{\circ}$ F. the second night, but rapidly dropped and was normal the sixth day. The wound healed without suppuration in a week. Patient gradually improved till August 26, when he was removed to St. Luke's Hospital, Chicago. His left leg was still totally paralyzed, his right lower extremity had regained sensation. Right hand still partially paralyzed, and unable still so use his left hand. I did not see patient again until October 21, when he returned. I found that the arm and leg on the right side had regained both motion and sensation. Left arm improved, but could not flex or extend fingers. Left thigh showed muscular atrophy; could flex and extend both left leg and thigh, but had no control over muscles of foot and toes. In ten days the patient left for Idaho, where he soon got about on crutches. December 9 when last heard from, he had abandoned his crutches and was getting about slowly, showing that the clot had been absorbed and function nearly restored, just four months after injury.

The case is remarkable, in that so large a bullet, 38 calibre, should perforate the neck with so little damage, and that a blood clot in the spinal canal should be absorbed and function so largely restored in so short an interval as four months.—Alfred C. Haven, M.D. in *Med. Record*.

The Diagnosis of Syphiloma.—Professor v. Esmarch, according to *Medicine*, assures us that he has sometimes mistaken syphilomata for malignant tumors

on account of the great physical similarity between these two diseases, and assumes that many others have done likewise—in fact, he quotes such cases from the published experience of others. He regards as untrustworthy the diagnosis of malignant tumors:

1. When the patients have symptoms of syphilis present or past, or where the history shows that they, their parents, their brothers, or their sisters have suffered from this disease.

2. When the tumors develop in the voluntary muscles, for syphilomata occur in the muscles much more frequently than do other forms of tumors—they are most frequently found in the sterno-mastoid (one-third of all the observations), then in the muscles of the abdominal wall, the back, the legs, and finally in the tongue muscles.

3. When the tumors (sarcomatous) return shortly after extirpation—perhaps to this class belong the recurrent fibroid tumors of Paget.

4. When the tumors disappear after the use of iodide of potassium, mercury, and Zittmann's cure.

An example of such mistaken diagnosis is the case of a patient whose early history has only recently been brought to light. In 1886 a man aged forty-two presented himself with a number of ulcers of a syphilitic character and numerous scars, the evidence of repeated extirpations and erasions. The physicians of California had regarded his disease as carcinoma, which was supposed to have arisen as the result of a hammer stroke upon the penis, and they removed the diseased tissue and the recurrent masses. Finally the penis, the scrotum, and the testis, as well as large pieces of the abdominal skin, were cut away. Esmarch observed the opening of the urethra at the apex of a skin mass at the side of the median line and subjected the unfortunate fellow to an energetic antiluetic cure, and after the use of a considerable quantity of mercuric ointment and iodide of potassium all the tumors were cicatrized. Professor von Esmarch also states that he regards as genuine the cases of sarcomata reported by Dr. William B. Coley, of New York, as having recovered under the influence of erysipelas and prodigious toxins, for the reason that they all bore much the same clinical appearance and because the carcinomata, which are not so readily confused with syphilis, were not at all affected by the treatment.—*Medical Record*.

OBSTETRICS AND GYNECOLOGY.

Treatment of Certain Conditions Following Parturition.—Dr. Henry D. Fry is of the opinion that the small departures from a perfectly normal puerperal convalescence are due to certain uterine conditions which are easily remedied. (*Amer. Jour. Obstetrics*.) There is no other class of cases in which the temperature changes is such a positive and unfailing index of the condition of the patient. The author urges

that all elevations of temperature, regardless of degree, be accepted as a signal of danger justifying a diligent exploration of the uterus. In a great number of cases an evident cause of the febrile excursion can be found, which is generally simple but sometimes severe in character. The author cites a personal case. Three weeks after delivery the temperature ranged a little above normal; there was anorexia, constipation and a feeling of general malaise. A slight endometritis had complicated the case, which was corrected by warm irrigations and the temperature became normal.

In another case recovery was retarded, and for some weeks the temperature ranged from 100° to 102°. A simple examination revealed a large, retroflexed uterus. The curve in the organ vitiated the good effects of drainage, and a large quantity of the lochial discharge was retained, causing a febrile reaction by absorption. Irrigation would cleanse the cavity of the debris, and a short apyretic period would ensue, followed by a return of fever when accumulation of the discharge recurred. A correction of the malposition was followed by a return to health. A third case, in which the evening temperature ranged above normal, seemed to have no anatomical abnormalities, but the fever resisted all treatment, vaginal douches and antipyretics. It was decided to practice uterine irrigations, and when the tube was introduced in the uterine cavity and evacuation of a large quantity of thick pus occurred, showing that for some reason there was a failure of drainage. The lochia of this case were slightly fetid. The odor of the discharge and the constitutional symptoms did not indicate the severity of the local condition. The author says the character of the lochia is a valuable index of the condition of the patient. They may be too free or scant; may be bloody too long; they may be influenced by position, or they may have odors of decomposition.

A firm and permanent uterine retraction is essential to a perfect and speedy convalescence. This controls the hemorrhage from the open sinuses at the placental site. Premature attempts at placental extraction, insufficient manipulation of the uterus, traction on cord, insufficient pressure after total delivery and unnecessary moving of patient are a few of the many causes of faulty retraction and hemorrhage. The author says he has never failed to check a too profuse sanguinolent flow, by the introduction, for a day, of a piece of gauze in the uterus, but he advises this only after the simple means have failed. Another essential is a perfectly aseptic and empty uterus. The principle factor of a septic uterus is retention of portions of the placenta. This danger can be reduced to a minimum by a slow expression of the placenta, and the placental mass must be supported in the hand and the membranes never allowed to become tense. In some cases the placenta is apparently perfect, yet the ordinary symptoms of retention and decomposition occur. This may be due to the abnormal presence of a small subsidiary placenta or portions of the placental mass which remain adhered from a faulty separation of the placenta. If any por-

tion of the placenta is retained it must be removed surgically. A most important factor is that the uterus should be in a position most favorable to constant drainage. Deviations in position can easily occur while the uterus is large and heavy and the ligaments lax.

The changes in position are liable to cause occlusion. In the opinion of the author the pernicious use of the bandage and compress is a prolific cause of displacements.—EDGAR THOMPSON.

A New Postural Method of Treating Prolapsus of the Umbilical Cord.—The percentages of infantile mortality due to this cause vary according to different authors, but from the very lowest estimate, one-quarter of the cases are fatal to the child. The discovery of the prolapsus before the rupture of the membranes offers a far better prognosis than is discovered after. The greatest danger is in prolapsus with a vertex presentation. In primiparæ the infantile mortality is greater than in multiparæ. The postural treatment for this complication was first suggested by Thomas. The woman being placed in the genu-pectoral position, thus letting the cord slip into the fundus uteri by force of gravity; but this position is a very arduous one for the parturient woman for any length of time. Over a year ago the author suggested in an article that theoretically the Trendelenburg position ought to accomplish the same result with far less discomfort to the patient. Since then he has tested this method in three cases, saving all the children.

In the first case a transverse presentation was present in a woman weighing 250 pounds. The membranes were unruptured, and after doing an external version the left foot presented with 6 inches of pulsating cord. Chloroform was given, a common cane-chair placed upside down at the foot of the bed and covered with a pillow and sheet, and the woman placed in the Trendelenburg posture. After pushing the cord into the uterine cavity, which was done with ease, and placing a sponge to prevent its prolapsing again, the membranes were ruptured and the child delivered with difficulty. After the umbilicus was past the cervix, the chair was removed and the delivery accomplished in the usual way. The child was cyanotic, but was soon restored.

The second case was one in which the hand presented, and above this the face with the chin posterior, and 12 inches of prolapsed cord was in the bed. There was complete absence of labor pains. The pulsations of the cord were 150. The footpiece of the bed, being 18 inches above its plane, was utilized to form an inclined plane with a washboard and the woman placed in the Trendelenburg posture. The hand and face was pushed to one side, after pushing back the cord, and a foot brought down and the child delivered. The child was markedly asphyxiated, but soon revived.

A third successful case is also reported. In addition to the greater ease of restoring the cord the author was impressed with the facility with which he was able to perform version in this position. He sums up his im-

pressions as follows: (1) The advantage of the elevated hip position combined with extension of the limbs in increasing somewhat the antero posterior diameter of the pelvis. (2) The ease with which a prolapsed cord can be replaced and kept back with the aid of a fairly large piece of boiled sponge pushed between the presenting part and the pelvic wall (as suggested by Renshaw). (3) The ease with which the presenting head can be pushed up and a leg brought down. (4) The short time in which a version can be done.—*Amer. Med.-Surg. Bulletin.*

The Anatomy of the Endometrium and the Technique of its Removal by Curettage.

—The uterus is a hollow muscle lined with a peculiar membrane. In certain animals this organ is guarded by a sphincter muscle, lined by a true mucous membrane supplied with compound racemose glands, called the cervix. Such is the arrangement of structure in women.

The endometrium proper begins about the os internum, lines the inside of the entire corpus uteri, and extends a variable distance into the fallopian tubes. It rests directly upon the muscle, without a basement membrane. The integrity of the structure is maintained by a delicate meshwork of reticulated tissue, which springs from the connective tissue of the muscle and vessels. Lying between the trabeculae of connective tissue, crowding all the interfibrillar spaces and attached to the fibres, are multitudes of granular nucleated corpuscles, resembling white blood corpuscles in size and shape; but there are seen, closely attached to the reticulated tissue, minute granules, and between these and the above there are all gradations. The corpuscles multiply by karyokinesis and probably some other more prolific source. Whether the minute granules are embryonic corpuscles, or merely granular protoplasm from more mature cells, is unknown.

These corpuscles are abundant in the muscular bundles. The retiform tissue is penetrated throughout its entire depth by crypts, which extend even between the fibres of muscle. They are both sigle and branched.

The surface of the endometrium and the crypts are covered by a single layer of cylindrical ciliated epithelium. The epithelium is attached loosely to the subjacent retiform tissue. Everywhere between the crypts are lymph spaces which become distinct cavities in the muscle. Above the os internum these lymphatic channels unite to pass between the layers of the broad ligament; below the os internum they extend beneath the broad ligaments, and end in lymphatic glands over the obturator foramina. The capillaries penetrate as far as the epithelial layer on the surface. At once one is struck by the fact that this soft, unstable membrane is surely not a mucous membrane, but is a lymphoid organ without glands. I have striven to solve a few problems that have come to me from a study of the phenomena incident to certain states of the woman:

The lack of physiological function in the endometrium of the very fat; the remarkable activity of absorptives

which follows the removal of the uterus, similar to what we see ensue after destruction of Peyer's patches by typhoid fever; the effect hysterectomy upon the progress of phthisis pulmonalis; the synchronous development of the thyroid and the lymphoid endometrium.

These and many other observations have forced upon me the conviction that we must class the endometrium among the lymphoid organs.

Less difficult it is to determine whether we shall place the endometrium among the lymphoid organs which are engaged in the formation of blood or those more closely allied to the absorptive system. Where the differentiation between hematopoietic and chylipoietic structures begin we do not know.

The endometrium, with a cycle commonly of 28 days, swells because of the marvelous increase in the interfibrillar lymphoid cells; the old capillaries enlarge and new ones readily form. The tension increases to a certain point when the epithelium becomes loosened and melts off. The lymphoid cells are then exposed upon the surface of the membrane, and further increase in vascular tension results in rupture of the capillaries with the escape of blood into the uterine cavity. For four days usually this bleeding continues, the vascular pressure ceases, and with it the hemorrhage; but for some days the discharge of lymphoid cells continues and appears as a milky fluid. Even before this ceases a reproduction of the epithelium begins.

Summed up in one sentence, the elaborate structure of the endometrium, and all this delicate association of phenomena, are designed for one thing only—the union of a number of lymphoid cells, under the stimulus of a fecundated ovum, to form a decidual cell.

CURETTAGE: PREPARATION FOR THE OPERATION.—I now pack the vagina loosely, 24 hours before operation, with a moist bichloride dressing (1 to 5000) to loosen the superficial vaginal epithelial layers. The general treatment is that usual in surgical procedures.

At the time of the operation the vagina is scrubbed with lysol (1 per cent) and a silver-brush. All instruments are boiled in soda solution, and the nail brushes, the towels, sheets, plain gauzes, *irrigator and basins* are steam sterilized.

The instruments are laid upon a sterile sheet and kept covered. I cleanse myself and assistants with lysol (2 per cent). For irrigation I use either 1 per cent sterilized salt solution or saturated solution of boric acid. I never irrigate with antiseptics, not even Thiersch's solution. No sponges are used. As a dressing I use my form of iodoform gauze only. The patient is on the back.

The cervix is grasped by blunt forceps and pulled down and the direction of the uterine canal determined by the sound, and the packing applicator bent to conform to the shape of the sound.

If the cervix be soft or lacerated I dilate only, but insist upon a dilatation in a non-pregnant uterus of at least half an inch. If I do not get it by use of the dilator alone, I incise the cervix. In non-septic cases the cervix is amputated if the operation is indicated.

The functions of the cervical ganglia must be so obtunded as to prevent uterine contractions, except in post-partum cases.

I use Sims dilators slightly modified, but do not approve of dilatation by graduated sounds.

In markedly septic and specific cases it is well now to swab the cervical mucous membrane with a strong carbolic solution.

Dilatation being sufficient, I curette next, using as large an instrument as can be introduced, and with a smaller one for the scraping out of the tubal openings and angles.

We have now produced within the cavity of the uterus a quantity of debris, and its removal is absolutely essential to success. I accomplish this by means of as large a double catheter as I can introduce.

The uterus is now packed full of iodoform gauze, using for this purpose no speculum or forceps, but only a stiff applicator.

I get into the virgin uterus one yard of gauze an inch and a half wide. A uterus aborted at the third month will contain one yard, three inches wide, or even more. It must be packed tightly. If the cervix has been incised, the rents are not sewed up, as they close sufficiently without this. The vagina is snugly packed with iodoform gauze. The woman is up in three days. Dressings are not removed before the fourth day, usually on the eighth. If the uterus is large and septic it is again packed with gauze, but I do not often do this. With large uteri I begin ichthyol tampons in the vagina at the third week to aid involution, but absolutely prohibit coitus, douching, etc. for two months.

Believing, as I do, that this structure is most delicate, that all antiseptics produce slough, that the measures must be adapted to the function of the organ, and that we must so do the operation that an anatomically perfect endometrium may be produced. I never introduce into the uterus any irritant whatever. Innocent as is iodoform, I use but a 10 per cent gauze.—W. R. Pryor in *Amer. Gynec. and Obst. Jour.*; *Amer. Med.-Surg. Bulletin*.

Menorrhagia and Its Rational Treatment.

—In a paper read before this society in the winter of 1888 I suggested the term *menorrhagia* as a preferable one to *dysmenorrhea* in designating the systematic condition in which menstrual pain is the chief feature. The term *menorrhagia* is therefore used in this paper as synonymous with the more widely used term *dysmenorrhea*. It is preferred because it involves no theory of mechanical difficulty so inseparably connected with the former term.

The menstrual pain is rarely if ever associated with obstruction of the flow is more definitely determined to-day than ever. Of those who still maintain the truth of this discredited theory, or who, without considering the pathology of the condition, continue to employ dilatation as a remedy, I would ask proof of their theory in the following details:

1. Have they met with a case of ordinary menstrual pain in a young woman in which an accumulation of the menstrual fluid occurred above the alleged stricture?

2. Have they not met with cases of artificial stenosis from a trachelorrhaphy greater than the usual idiopathic stenosis, without the distinctive features of menorrhospasm and without pain?

3. Have they passed a sound during the height of the suffering in any of these cases of pain and cramps without finding the uterus more patulous than between periods?

There can be but one conclusion from a series of facts thus elicited—namely, that it is irrational to regard menorrhagia as due to obstruction in any sense, even though a spasm of the internal os can be produced by the sound between periods, for even this spasmodic contraction will usually be found wanting during the period itself.

It is clear, in the light of all the facts, that menorrhagia is merely the expression in pain of an attempted functionation of a lame set of organs, the pain often taking the form of a menorrhospasm. The cause of this lame performance of an important function may be in the nervous system exclusively—the neuropathic diathesis—though it is usual to find some chronic inflammatory condition of uterus or ovaries as the exciting agency.

The rational treatment of the affection calls for a correction of the faulty condition of the nervous system, which is often an actual neurasthenia, and where the local fault is very slight this will be quite sufficient. But if there is distinct physical trouble about the uterus and its associated organs, it is extremely illogical to depend upon general curative measures alone. The case will be a costly failure. In nearly nine tenths of the cases occurring in single women an endometritis is the exciting cause, for of thirty-two cases of which the writer has preserved careful notes, at least twenty-eight showed marked signs of this condition.

These thirty-two cases presented other points of interest when studied collectively. For instance, in only four of them was any difficulty encountered in inserting a sound of ordinary caliber, and in each of these I succeeded in fully inserting the sound-shaped electrode after several partial insertions and negative applications to the cavity as far as inserted, and in no instance was it necessary to dilate either forcibly or with dilating electrodes after Fry's method. At no time has it been necessary to use force to insert the electrode, and in no instance was a tenaculum or Volsella forceps used to fix the os while the electrode was slipped in.

It would seem indeed, that the most important enumeration in connection with these cases was of the things I did not do. Of the things accomplished, however, it may be said that I did insert electrodes into all these cases of alleged narrow and obstructed uterine canals without forcing, stretching, or otherwise wound-line the structures of the uterus, and that of all the cases,

with the exception of four, were cured of the trouble. Neither of these four excepted cases were instances of difficult insertion, and the results were indefinite simply because of insufficient treatment.

Of the thirty-two cases five had been dilated by other physicians ineffectually before coming under my care, most of these having been dilated most thoroughly under anesthesia on more than one occasion.

The purpose of the electric treatment is therefore not dilatation, as has been incorrectly assumed by some physicians, but the cure of the congestion, inflammation, or malnutrition on which the condition depends.

In most cases the rigid, sound-shaped electrode must be used as a negative pole within the uterus, with currents varying from fifteen to forty milliamperes; though in patulous cases an elastic, cotton covered electrode is preferable. These applications should be made twice a week, interspersed with vaginal applications of both currents if there be tenderness or congestion in either tubal region, and they should extend over two intermenstrual periods, as a rule, to insure permanent results. Should a pelvic neurosis be the only condition present, with or without lack of development or malassimilation, the intra-uterine treatment should be omitted, and reliance be placed on the vaginal application of both currents as the special electrical feature of the treatment. For neurasthenic symptoms the general galvanic stimulation should be added with the other features of the rest-cure methods.—G. Betton Massey in *Milwaukee Med. Jour.*

Tannin and Camphor in the Treatment of Erysipelas.—Sperandino (*Gazz. degli osped.*, '95, No. 80; *Deutsch. Med. Zig.*, Feb. 24, 1896) employs the following solution:

Tannin	2 parts.
Camphor	3 parts.
Sulphuric ether	15 parts.

The erysipelatous area is painted with this solution every hour or two, proceeding from the surrounding healthy skin toward the center of the patch. At first there is some burning, which is due to the evaporation of the ether. In a short time, however, a crust forms on the affected skin, the swelling goes down, and in a few days the cure is complete.—*N. Y. Med. Jour.*

Curiosity in Longevity.—A remarkable instance of longevity in one family has just been published in the *St. Thomas' Hospital Gazette*. Mrs. B., born 1680 (five years after the accession of Charles I.), died March 13, 1732. She was tended in her last illness by her great granddaughter, Miss Jane C., born 1718, died 1807, and Miss Sarah C., born 1725, died 1811. A great niece of one of these two ladies, Mrs. W., who remembers one of them, was born in 1803, and is at the present time alive and well. It will be seen from the above facts that there are three lives only to bridge over the long period between 1680 and 1896, and that there is at present living a lady who personally knew Miss C. who had nursed a relative born in 1680. The last lady of this remarkable trio is hale and hearty, and has just successfully undergone an operation for cataract.

NOTES AND ITEMS

Women Physicians in Austria.—The "new woman" seems to meet with high favor in Austria. For several years native female graduates in medicine have been licensed to practice, and now the Minister of Public Instruction has published an order admitting to registration in Austria women who hold medical diplomas from reputable foreign medical schools.

New Disease.—Scrumptox is a new disease to which foot ball has given rise in England. It is a bad eruption, coming indirectly from dirty jerseys and affecting especially the forwards in Rugby foot ball, who have to shove in scrimmages. It has been proved to be contagious. The particular microbe to which the eruption is due is the staphylococcus pyogenes aureus.

Fatigue.—The experiments of Masse, of Turin, and of Michael Foster, the physiologist, have shown that the sense of fatigue is due to poisoning of the cerebrum by the products of retrograde metamorphosis. The blood of a tired animal is poisoned, and when injected into another animal causes the phenomena of fatigue. The toxicity of the blood may become so great as to prove fatal, as was shown by Foster, in rabbits that had been hunted to death.—Dr. Bartour, in *American Practitioner and News*.

The Simulation of Death by Indian Fakirs.—Dr. Kuhn has had occasion to observe two cases the genuineness of which he had no reason to doubt.

One of the fakirs in question had been interred for six weeks and the other for ten days, says the *New York Medical Journal*. The fakirs who are hysterical to the highest degree, possess the faculty of producing artificially a condition identical with cataleptic ecstasy. They use all possible means, such as mortification of the body by a special diet, the internal employment of different plants known only to themselves, and the adoption of a peculiar posture of the body for many hours, etc. When they have practised this for a sufficient length of time, they assume one of the postures prescribed by the sacred books of the Indians and fall into a hypnotic condition induced by looking fixedly at the end of the nose. Hasheesh is still made use of by them to diminish the respiratory force, for this hypnotic, when associated with other plants and employed in a peculiar manner, make up for the loss of air and nourishment. The fakirs have hallucinations when hypnosis begins; they hear certain sounds, they see angels, and their faces express a feeling of happiness. But, little by little, consciousness disappears and the body acquires a peculiar rigidity. This is evidently, says the writer, a matter of self-hypnotism in hysterical persons who are sufficiently predisposed to it. This lethargy is

looked upon by the people as death, and when the subjects are aroused it is God who has brought them to life. In Greek and Roman literature, says the writer, we may find accounts of persons who have died and returned again to earth. There is nothing astonishing in these facts, for Bouchut, in his treatise on the signs which enable us to recognize real death, reported the case of a woman who had been disinterred in order that a friend might look at her again. She was found to be alive, and she lived for many years afterward. Also in the Department of the North there was a case reported of a girl who had remained in a lethargic condition for several years. She had fallen into this condition on hearing that she was to be arrested for having committed a crime.

Right of Way to Physicians.—An ordinance has been passed in Chicago granting to physicians' and hospital ambulances the right of way across processions, bridges, etc.

Be it enacted by the City Council of the City of Chicago:

SECTION 1.—All ambulances and vehicles belonging to the Health Department, and all ambulances and vehicles belonging to incorporated hospitals recognized by the Health Department as being regular hospitals in the City of Chicago, shall have the right of way in the streets of said city, as against all processions, persons, vehicles or animals, when conveying any patient or injured person to any hospital in the city, or when proceeding to the scene of any accident by which any person or persons have been injured; and any person refusing to yield the right of way, where it is possible, shall be deemed guilty of a misdemeanor, and on conviction thereof shall be fined not exceeding twenty-five (\$25) dollars for each and every such offense. The Superintendent of Police is hereby required to rigidly enforce the provisions of this ordinance. Physicians having a permit, and who shall wear a suitable badge, to be procured from the City Clerk, shall also have a like right of way for themselves and vehicles in the streets, and shall be allowed, as soon as possible, to cross processions and other public gatherings and bridges, when answering calls for their professional services. The Mayor and City Clerk are hereby authorized to issue, upon written application therefor, a proper permit to any duly registered physician or surgeon, residing or practicing in the City of Chicago, which permit shall not be transferable.

SECTION 2.—The Mayor and City Clerk, before issuing any such permit or badge, shall obtain from the State Board of Health a certified copy of all regular practicing physicians, licensed by such Board of Health, and residing or practicing in the City of Chicago, and such permit and badge as above referred to shall only be issued to such physician or surgeon who shall be certified by the State Board of Health as being a regular practicing physician or surgeon.

SECTION 3.—This ordinance shall be in force and effect upon and after its passage.

PUBLISHER'S DEPARTMENT.

PEROXIDE OF HYDROGEN. By J. P. Parker, Ph.G., M.D., of St. Louis, Mo. Published by the *Annals of Ophthalmology and Otology*, of St. Louis, Mo. Abstract from *The Medical Times and Register*, June 8, 1895.

I have used peroxide of hydrogen quite extensively for cleansing discharging ears the nasal and accessory cavities, and have tried all the brands of the preparation in the market, and once thought one manufacturer's make as good as that of another, and bought the cheapest as a matter of economy, but recent experience has taught me that the difference in quality is greater than the difference in price. After an unpleasant experience with a solution of peroxide of hydrogen which severely injured the mucous membrane, I bought and examined, chemically, a bottle of each preparation of H_2O_2 in the market, and was surprised to find so much difference. Some are useless, and others worse than useless because they contain too little available oxygen and too much free acids (phosphoric, sulphuric, hydrochloric). I now order Marchand's (medicinal) exclusively because I find it contains the desired quantity of available oxygen and not enough free acid, to be objectionable, and its keeping properties are all that could be desired.

By inquiry I learn that Marchand's is the preparation that is used by almost all surgeons, and it is considered by them the standard.

[My personal experience with peroxide of hydrogen confirms entirely the statement of Dr. J. P. Parker, I have used exclusively Marchand's brand until lately, when I experimented with hydrozone. Then I gave up entirely the use of peroxide of hydrogen and use hydrozone on account of its strength, which can not be compared with any other brand, even Marchand's. I must say that the results which I obtained with hydrozone are most gratifying.—Ed.]

CHRONIC GOUT.—One of the most distressing features of the chronic form of gout are the deposits of urates formed in and about the joints, as well as in the fibrous and cartilaginous structures in other parts of the body. In consequence of these deposits the affected joints become stiff and their function is more and more impaired. They also become deformed, and the seat of nodular swellings. If situated under the skin these nodules may produce ulcers which become the source of much suffering. The aim of treatment in this class of cases, therefore, is to administer remedies which effect the gradual absorption of these gouty tophi. External measures are of little avail, and reliance must be chiefly placed upon the administration of drugs which have a solvent action upon uric acid and urates. For this purpose the alkaline salts and the many mineral waters containing them have been largely employed, but according to the testimony of eminent members of the medical profession, as the late Sir Andrew Clark and Dr. Schweninger, the physician to Prince Bismarck, Piperazine is a potent solvent of the urates and a most valuable addition to the list of remedies in chronic gouty cases. Dr. Mapother thinks that it bids fair to supplant lithia potassium and salicylate of sodium. Since resorting to the use of Piperazine Dr. Schweninger has no longer found it necessary to undertake the operative removal of large, stone-like gouty growths which sometimes occur on the elbows, ears and eyelids. These and many other observations speak so strongly in favor of Piperazine that it should be assigned a prominent place in the treatment of this class of cases which have been but slightly benefited by other remedies. The dose of Piperazine-Bayer varies from 15 to 20 or 25 grains per day, and it should be administered in an abundance of water, attention being paid to the regulation of the diet and other habits of life of the patient.

\$140

BUYS NEW PIANO ORGANS \$49. CATALOGUE FREE. DANIEL F. BRATY, WASHINGTON, N. J.

MEDICAL REVIEW.

A WEEKLY JOURNAL OF MEDICINE AND SURGERY.

VOL. XXXIII.

ST. LOUIS, APRIL 11, 1896.

NO. 15

ORIGINAL ARTICLES

A Case of Condylomata Acuminata Vulvæ With Presentation of Specimens.

BY F. C. AMEISS, M.D.,

Clinical Professor of Gynecology, Missouri Medical College,
St. Louis, Mo.

Read before the St. Louis Obstetrical and Gynecological Society,
April 2, 1896.

Condylomatous growths of the vulva are not very rare, but the subject may prove of sufficient importance to permit your indulgence for a few moments.

The specimens which I here present, are pointed condylomata which were removed a month ago from the external genitals of a girl seventeen years old.

The patient gave a distinct history of gonorrhea, contracted one and one-half years ago. A couple of months after the infection she noticed small granular growths at the vulva which have enlarged ever since, and for the last year have caused a very offensive discharge, so offensive that when she was placed on the examining table at the clinic every one present would have preferred to be anywhere else but in the clinic room.

The very large neoplasm, resembling in appearance that of a cauliflower epithelioma, extended from the mons veneris to a point one inch posterior to the anus. Its general attachment was of a semi-pedicated nature, although it seemed at numerous places to have a solid, broad base, particularly at those sites where the growth was thickly crowded and had apparently coalesced into a solid mass with pointed ends.

The tumors involved the entire external genitalia, growing from the mucosa of the vestibular space, with small excrecences on the clitoris and at the edges of the meatus urinarius. The growths, attached to the labia majora and minora, were of one to two inches in length, and extended internally, beyond the nymphæ, slightly into the vagina, and externally, laterally, on to the inner thighs, as the accompanying photograph shows. The profuse growth involved the entire perineal

space, with smaller tumors growing from the mucous membrane of the anus.

No part of the vulva could be exposed; even on separating the growths attached to the labia, nothing but the stinking excrecences could be seen.

The treatment consisted in excision and the application of the actual cautery to the raw surface. This, of course, was done under anesthesia. The cautery was applied not so much for the purpose of controlling hemorrhage, which was not very profuse, as for destroying the base and thus preventing regrowth.

As after dressing, iodoform gauze was placed daily over the wound, after cleansing it with a one to two thousand bichloride solution. A vaginal douche of half a gallon of a one to four thousand bichloride solution was ordered to precede each dressing, and a few fifty per cent carbolic acid applications were made to the uterine cavity and to the eroded cervix which was then covered with a strip of iodoform gauze.



On about the sixth day after operating, I noticed little excrecences redeveloping and sprouting up in the vestibular area and around the anus where the cautery, very likely, had not been properly applied. I ordered to wash these locations with a common salt solution and then, while moist, to dust them well with calomel; the patient herself attending to these applications four to five times a day. Under this local treatment the small regrowing tumors soon shrank and disappeared, so that within another week the entire genitals were healed and clean of the neoplasm.

The growths, after their removal, were placed in a three per cent solution of formol, and were given to my friend, Dr. H. A. L. Rohlfing, who kindly made sections and prepared the specimens which I herewith offer you for inspection with these hand microscopes. The slides plainly and beautifully show the mode of growth of

the neoplasms. Dr. Rohlfing intends to double-stain some sections for the gonococcus and hopes that he may be able to develop this micro-organism. There certainly were present the very characteristic symptoms of gonorrhea at the onset of the trouble. Almost all of the recent authorities claim that gonorrhea is the general cause of these growths, still some text-books deny almost *in toto* their specific origin, stating that they are usually due to want of cleanliness. But may it not be surmised that where there is so much filth there may probably also have been chances for gonorrheal infection?

When these growths occur during pregnancy, they enlarge and grow very rapidly which, very likely, is due to the extra vascularity of the parts generally accompanying this state of a woman's life. It is said by some writers that the growths shrink and disappear after labor, which may, at times, occur during the usual post-partum involution of the uterus and genitalia, but certainly is not always the case. I have seen one case which continued to grow after childbirth and needed, after excision, very active treatment to prevent recurrence.

These specific tumors and the accompanying infectious disease should always receive prompt attention, but particularly when occurring during the latter months of pregnancy, so as to prevent puerperal complications and the dreaded ophthalmia neonatorum.

[2804 Olive Street.]

A Case of Dislocation Backwards of the Penis.—L. G. Fischer (*Lancet*) under this title reports a very curious and interesting condition following a severe accident which came under his notice in his service in India. The patient was a Mohammedan child 5 years old, brought to the hospital suffering from infiltration of urine. Four days before he had fallen under a cart. When seen, the lower part of the abdomen, scrotum, and perineum were distended with urine. The penis appeared to be normal. The infiltration was relieved by incisions. Recovery resulted, but a fistulous tract remained above and to the left of the pubes, and the case then passed from observation. Six months later he was seen again; the fistulous tract remained, from which all the urine came; the penis appeared normal but shriveled. A catheter was arrested, on attempting to pass it, at the peno-scrotal angle. It was then discovered that the supposed penis was only skin, there was no glans and no corpora cavernosa; the fistulous tract was slit up (under chloroform), and the penis itself found in the bottom of the wound, the glans presenting at the orifice of the fistula. A catheter could then be passed. The glans and corpora cavernosa were dissected from their surrounding adhesions, and the skin of the penis slit up the dorsum and the parts replaced and sutured. Recovery and cure resulted.—*Amer. Med. Surg. Bulletin*.

MEDICAL REVIEW.

EDITORIALS

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PUBLISHED UNDER THE AUSPICES OF THE
MEDICAL REVIEW ASSOCIATION

By O. H. DREYER.

YEARLY SUBSCRIPTION, \$3.50. SINGLE COPIES, 10 Cents.

TO CONTRIBUTORS AND CORRESPONDENTS.

All letters whether intended for publication or not must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of the meetings of their respective societies, and of officers elected.

Members of the profession who send us information of matters of general interest to our readers will be commended as doing them and us a favor, and we shall take pleasure in inserting the substance of such communications.

Communications, Medical Books for review, and all letters containing business communications or referring to the publication, subscription, or advertising department of the REVIEW, must be addressed to O. H. DREYER, Publisher, 112 N. 4th Street, St. Louis.

Entered at the St. Louis Postoffice as Second-Class Matter.

The Dairy Inspection Bill.

The recent passage of the dairy inspection bill is an event in the history of St. Louis sanitary legislation which, if the law will be conscientiously carried out, is destined to do more good than most legislative measures for the prevention of disease have ever accomplished. Most infectious diseases are contracted by the food we eat, the fluid we drink and the air we breathe. Pure food, pure water and pure air are the first requisites for the preservation of health. The enforcement by law of an hygienic condition of diseases is a step forward in city legislation, the importance of which can not be overestimated, and Health Commissioner Starkloff is to be congratulated upon his determined efforts culminating in the final passage of the bill.

The prevalence of tuberculosis among cattle forms a constant menace to the community of being infected with tuberculosis by drinking milk which has not been sterilized or, at least, pasteurized and the consumption of unboiled milk is, in our experience, quite common, although one would suppose that within the last few

years nearly everybody ought to be acquainted with the dangers of infection that are connected with the consumption of unboiled milk as long as an adequate scientific supervision of milk dairies and milk supply has not been instituted.

Besides the danger of a tuberculous infection by the milk of dairies that are not managed under hygienic supervision, milk plays a most important role as a vehicle for contagion, so that cleanliness, sewerage, ventilation, admission of sunlight, pure food and pure water for milk-yielding cows are necessities of a properly conducted dairy, which can not be too emphatically demanded by all who are interested in the health and welfare of this city.

The fact that cattle may be well nourished and upon physical examination manifest no sign of a tuberculous infection, while upon the injection of tuberculin such an infection becomes evident and in every instance seems to be verified by autopsy, demonstrates the diagnostic importance and necessity of tuberculin injections, the employment of which, for the purpose of diagnosis, will, we hope, be made use of by the City Health Department in the near future.

Let us hope, also, that the passage of the milk inspection bill may now be followed by a correspondingly appropriate legislation regarding the city's meat inspection. For the cattle slaughtered for the purpose of supplying the city with meat need as careful a supervision as the dairies. In Europe the necessity of a systematized and thorough meat inspection, before and after the slaughtering of cattle, has found expression in the establishment of large slaughter houses where a most minute and detailed supervision by a large corps of trained meat inspectors and veterinary surgeons watch over the meat supply.

If it were feasible to subject the supply of all other animals to a similar supervision, such a control would do much toward lessening disease and human suffering; but for the present let us be contented in rejoicing over the passage of the dairy inspection bill as a considerable step forward in the realization of urgent and practicable hygienic projects.

The After-Effects of Chloroform Narcosis.

The literature upon the pathological anatomy of the deleterious after-effects of chloroform is a very meagre one and of the clinical symptoms signaling the lethal fit in such cases there is even less information to be found in medical literature. Whether this be due to the fact that the lasting parenchymatous changes in important organs which are due to the after-effect of chloroform narcosis are so extremely rare, or whether they are overlooked on account of being attributed to the respective surgical operation and its consequences, we are unable to decide. But a fact is that systematic clinical researches in this direction are exceedingly scarce. Experimental investigations have been made by a number of authors, which are, however, not near so abun-

dant as the importance of the subject would justify, while exact histological investigations of the degenerative tissue changes due to the after-effects of chloroform, in which a record has also been kept of the clinical history, are, strange to say, confined to but a few cases.

The most important pathological tissue changes that have so far been discovered are degenerations in the kidneys, liver and heart. The kidney changes are turbid swelling, coagulation necrosis and fatty degeneration. In the liver a degeneration of cells in the acini and epithelial cells of the gall ducts as well as a peripheral fat infiltration of the acini have been observed, while the changes in the heart are, as a rule, less pronounced, turbid swelling, hyaline and fatty degenerations as well as a fragmentation of the muscular fibres have been reported. The clinical symptoms that have been observed are vomiting, icterus, albuminuria, cylinders and fatty degenerated epithelial cells and weak heart's action.

The degenerative changes observed in animals which succumbed after a longer or shorter period of chloroform inhalation are similar to those observed in man, they consist in a pronounced parenchymatous fatty degeneration of the internal organs.

There appears to be a fruitful field for clinical research in the chemical and microscopical examination of urine after chloroform inhalations, as well as a thorough conjoined clinical and histologic investigation of cases which have succumbed some time after being subjected to chloroform narcosis, particularly when we consider the fact, that one observer, Luther, found among thirty cases of chloroform narcosis twenty-one (seventy per cent) where albuminuria and cylinders were shown to be present. While these pathological constituents were only found in the urine for a few days, they were frequently present in large quantities.

Lecture on Roentgen's Rays Under the Auspices of the Alumni Association of the St. Louis Medical College.

Under the auspices of the Alumni Association of the St. Louis Medical College a most satisfactory public illustration of the powers of Roentgen Rays was given at Memorial Hall, Thursday evening, April 2. An audience of fully 800 persons closely followed the lectures.

Dr. T. S. Hawley, President of the Alumni Association, presided. Prof. Francis E. Nipher, of Washington University, lectured on "The Work of Crookes, Lenard and Hertz; Roentgen's Discovery; Possible Nature of the Rays."

He explained the mathematical and intricate features of his discourse with blackboard drawings. Prof. Charles R. Sanger, of the St. Louis Medical College, besides telling about the twenty stereopticon views of skiagraphs, which were exhibited, spoke of "Recent

American Work; Results Obtained in St. Louis; Application of the Discovery to Medicine."

* *

Prof. Nipher explained at length the difference between the cathode and the X rays discovered by Dr. Roentgen.

A series of twenty stereopticon views of skiagraphs were shown. Prof. Sanger explained each. The first picture was of a purse, showing its contents. The subject of this had been under exposure for an hour and twenty minutes. Two breastpins, studded with gems, were next shown.

The most interesting, in some respects at least, is the one representing an elbow. The patient was a girl or young lady living in Illinois not far from St. Louis. The photograph was taken in Prof. Sanger's laboratory. The young lady, who may be called Miss Brown, sat in an ordinary office chair. On a table at her side was placed a photographic plate ready for service. Miss Brown bared her right arm and rested it on the table and plate, with the elbow over the latter. The vacuum bulb was held above the elbow by books. Blocks of wood would have answered as well. The books were so placed as to form what might be called a well for the X rays to pass through in going from the bulb to the elbow. The distance was three or four inches. A shawl was thrown over the books and arm to keep out the sunlight. The bulb was connected by wires with a storage battery a few feet away.

Prof. Nipher had charge of the electrical portion of the apparatus. The air had been exhausted from the bulb before being placed in position. The current was turned on, and the X rays began to form a picture on the plate under Miss Brown's elbow. This sitting lasted forty-five minutes. To the young lady the operation was painless. It was a complete scientific success. The picture produced showed where one bone had been broken and another bent. To Drs. Mudd, Bryson and Fischel, at whose instance these experiments were made, it showed that the setting of the arm after the accident had been defective. It enabled them to adopt a plan of treatment which will remedy this defect, and give the young lady, in time, the full use of the arm. At present she can not bend it out of its present position.

* *

For several months Dr. E. J. Orr was troubled with a severe pain in one of his hands. The Doctor graduated last June from the St. Louis Medical College. He is now one of Dr. Mudd's assistants. The pain referred to was caused by a piece of glass from a broken bottle. The Doctor was unable to exactly locate the piece of glass until he exposed his hand to X rays. The exposure in his case was for one hour. The result is shown by the cut printed herewith. It shows the Doctor's fingers stretched wide apart and the piece of glass buried between the bones of the index and middle fingers. Its exact location having been determined, Dr. Mudd removed it with a knife in a few seconds and the wound is now rapidly healing.

The audience was treated to several other interesting demonstrations of the practical application of X rays to surgery, which were greatly appreciated.

National Convention of Railway Surgeons.

On April 29 and 30, and on May 1, St. Louis will be honored with the presence of the National Convention of Railway Surgeons, an event which is looked forward to with much interest by the local profession. The meetings which will take place at the Pickwick Theatre promise to be of much interest as well as mutual benefit. The names on the list of the various committees guarantee the scientific success of the meeting, while the social features will be equally well taken care of with the aid of the well-known hospitality of this city. The scientific program of the meeting will be found in this issue.

BOOK : REVIEWS

Books reviewed in this column may be obtained, post-paid, by addressing the publisher of this journal, and remitting the quoted price.

Consumption: Its Nature, Causes and Prevention; With an Outline of the Principles of Treatment, for all Classes of Readers. By EDWARD PLAYTER, M.D. (Medallist, Toronto University) M.C.P.S., Ont., Author of "Playter's Physiology and Hygiene," Editor of the *Canada Health Journal*; Member Canadian Medical Association, and American Academy of Political and Social Science. Toronto: William Briggs, Wesley Buildings. Montreal: C. W. Coates. Halifax: S. F. Huestis. New York: E. B. Treat. 1895.

This treatise, which is written in a popular, comprehensive style consists of three parts: I. Nature and Causes of Consumption; II. Prevention of Consumption; III. Treatment of Consumption. The newest scientific views, regarding the nature, prophylaxis and treatment have been embodied in the book which, as its title indicates, is written for the laity as well as the profession. It consists of the following chapters: 1. Introductory. 2. The lungs and Their Function and Uses. 3. Nature and Characteristics of Tubercular Consumption. What is Consumption. 4-10. Causes of Consumption. 11-15. Prevention of Consumption. 16. Treatment.

The Review of Reviews for April contains an interesting account of the industrial relief work now being done among the Armenians of Van under the supervision of Dr. Grace Kimball, an American medical missionary, who has profitably expended more than \$12,000 for this purpose, much of which has been contributed in the United States.

TRANSLATIONS.

BY EDGAR THOMPSON, A.M., M.D.

Appendicitis.—M. Dieulafoy has recently communicated the results of his investigation on the pathology of appendicitis to the "Academie de Medicine" and the following are his conclusions (*Le Progres Medical*, March 14, 1895):

1. Appendicitis is always the result of a transformation of the normal open appendicular canal into a closed cavity.

2. On account of the narrowness of the lumen an occlusion of the canal can easily occur at any point.

3. The transformation of the open tube into a closed cavity is occasioned in different ways. Very often it is an obliteration of the canal due to a slow formation of a calculus, which is more or less hard, consisting of salts of lime and magnesia mixed with a considerable quantity of organic and stercoraceous matter. This might be termed an appendicular lithiasis and is comparable to a renal or biliary lithiasis.

4. The author has demonstrated, in his numerous cases, the pathological similitude of the three lithiases; their co-existence in the same family, and the hereditary tendency of the appendicular lithiasis. He associates this tendency to the formation of calculi with the general conditions underlying gout and rheumatism.

5. In other cases the closing of the canal of the appendix is consequent to a local infection, causing infiltration and swelling of the mucous tissues in a manner identical with the obstruction of the Eustachian tube in cases of otitis and the obliteration of the biliary ducts in catarrhal icterus.

6. In some cases the pathological condition is the slow occlusion of the canal by a fibrous contraction at some point of the tube similar to urethral strictures. Frequently two or more of these conditions are united in the same subject. Especially is appendicular lithiasis and stricture associated.

7. The symptoms of appendicitis, whether benign or grave, depend on the extent of the obliteration of the natural open condition of the tube. At the moment the appendix becomes closed, the micro organisms which were harmless become virulent and cause inflammation.

8. A large number and variety of micro-organisms are always found in the appendix and it seems to be the normal habitat of the bacillus coli communis and several classes of streptococci. The virulency of these forms is well known and they will exert their malignant influence on small provocation.

9. The virulence of the appendicitis may be so great that the patient may succumb directly.

10. In most cases, however, the infection passes from the appendix to the peritoneum, the walls of the appendix not being perforated, and, in spite of this ab-

sence of perforation one can see all the varieties of peritonitis—general and encysted; abscess, septicemia, etc.

11. Medical treatment is insufficient and the sole rational procedure is opportune surgical interference.

Pathology and Treatment of Prolonged Hemoptysis in Tuberculosis.—A general cause of hemoptysis is cough, but, in some cases there is profuse sanguinolent expectoration when the cough is very light (A. Piassietzky, in *Ejesedelnek; La Presse Med.*). Frequently a consumptive will be burdened with a severe cough with no hemorrhage. If the hemorrhage only occurs with the cough the narcotics which diminish the latter will arrest the hemoptysis.

The old idea that the extent of the hemorrhage is proportional to the rapidity of the tubercular ulceration is untenable, for all the vessels are inflamed and obliterated long before they are laid bare in the progressive ulceration of the parenchyma. It is a clinical fact that hemoptysis is more frequent in a chronic case of tuberculosis than in a rapid one.

The author explains the origin of hemoptysis in the following manner: The thrombosis and obliteration of the vessels in the tuberculous district raises the tension of the pulmonary circulation; on account of this elevated blood pressure the smaller arterioles dilate at the weakest points and form aneurysms which finally rupture. The hemorrhage which ensues, lowers the blood pressure and permits the formation of a clot.

The author cites as proof of his theory the fact that there is always a slight hypertrophy of the right ventricle, due to the increased pressure in the small circulation. The hypertrophy is evidenced by the accentuation of the second pulmonary sound.

In all cases of acute tuberculosis, characterized by great hectic fever and extensive ulceration hemoptysis is rare on account of the extreme anemia and consequent low blood pressure, while in chronic tuberculosis, with tardy cachexia, and full blood pressure, hemorrhages are frequent.

Fortified by his theory the author affirms that the prognosis is better in cases which have attacks of hemoptysis than in cases without hemorrhage. The former cases at least progress much more slowly than the latter.

If, in a case of tuberculosis, any condition arises which tends to elevate the blood pressure the attacks of hemoptysis should become more frequent and severe. This is the case and the author has observed the fact in pregnancy which considerably elevates the arterial tension. Constipation has the same effect by congesting the mesenteric vessels.

The author does not hesitate to produce a premature delivery in tubercular cases if the hemorrhages become excessive. The excellent result from the evacuation of the uterus gives abundant moral justification for the destruction of the fetus.

The treatment of hemoptysis is unsatisfactory. Remedies to promote coagulation and other means are ineffectually applied. If a specific cause can be found treatment should be addressed to it. If the hemorrhage is due to pregnancy the question of delivery must be considered. If constipation is the cause salines will arrest an attack.

Where there is no evident exciting cause the best treatment is to depress the arterial pressure with morphine.

Treatment of Nervous Dyspeptic Crises and the Proper Mode of Administering Milk.—M. Mathieu has recently discussed this subject before the Paris Therapeutic Society (*La Presse Med.*, March 7, 1896).

The author says it is stating a well-known fact when he observes that innervation plays a considerable role in the modifications of gastric motility and secretory activity; there may be organic lesions but the capital cause is found in the nervous system as is shown by the investigations of Sallier, who, by mesmeric suggestion, could arrest gastric secretion and digestion in the hysterical. All conditions associated with hypochlorhydricity or diminution in the amount of acid, are, as a rule, easily treated along recognized therapeutic lines (Huchard and Bovet). But the state of hyperacidity may be simple and due to physical or chemical causes, or it may constitute the main symptom of a nervous gastric crisis.

Huchard and Bovet have observed that milk is especially badly assimilated during these crises associated with hyperacidity. The milk is transformed into large caseine clots which cause attacks of muscular cramps of the stomach walls, and colic.

To obviate the coagulation of the milk with its associated painful crises the author advises the following plan of administration: To each quart of milk add three ounces of lime water and give one pint of the prepared milk every three hours; this pint must not be drunk at once but is consumed by taking small swallows at a time so that the ingestion will last fifteen or twenty minutes, and only small clots will form which are easily digested. The lime water diminishes the acidity, and the milk dilutes the gastric juice by mixing with it and it also diminishes the acidity by the albuminoids of the milk combining with the hydrochloric acid.

The milk does not act as an alkaline; it gives rise to lactic acid and the author has found that the acidity of the urine is always increased when milk is consumed. Lactic acid being less irritant does not provoke as much pain as hydrochloric.

The hyperacidity must be antagonized by large doses of alkalines. The following mode of administration is preferable: Five grains of calcined magnesia with twenty grains sodium bicarbonate at the moment when the pain is felt. The milk and lime water can, then, begin with advantage. Under this practice the painful attack gradually become attenuated.

MEDICAL SOCIETIES

National Association of Railway Surgeons.

PRELIMINARY PROGRAM.

The Ninth Annual Meeting of the National Association of Railway Surgeons will be held in St. Louis, April 29 and 30, and May 1, 1896. Headquarters will be at the Southern Hotel, Fourth Street, between Walnut and Elm Streets.

The sessions will be held at the Pickwick Theatre, corner of Washington and Jefferson Avenues.

The meeting will be called to order the first day, April 29, at 10 o'clock A.M. precisely; and on the two successive days the members will convene at 9 o'clock sharp.

The afternoon sessions will begin at 2 o'clock P.M. and continue until 5 o'clock P.M.

The evening sessions will convene at 8 o'clock P.M. and continue until 10:30 o'clock P.M.

The following papers will be read:

1. "Restoration of Nerves after Injury, Experimental Research and Clinical Observation," by Dr. A. H. Levings, Milwaukee, Wis.
2. "Shoulder Joint Injuries, their Causation and Morbid Anatomy," by Dr. T. H. Manley, New York City.
3. "Railway Transportation of the Dead," by Dr. J. D. Griffith, Kansas City, Mo.
4. "A Study in Synthetic Metabolism in the Healing of Granulating Wounds," by Dr. W. B. Outten, St. Louis.
5. "Traumatism of Abdominal Viscera," by Dr. J. D. Northrup, Marquette, Mich.
6. "Secondary Amputations," by Dr. Alex Hugh Ferguson, Chicago.
7. "Color Blindness," by Dr. Emmett Welch, Grand Rapids, Mich.
8. "Rupture of Bladder, with no Evidence of External Injury," by Dr. S. R. Wooster, Grand Rapids, Mich.
9. "When to Amputate, Brief Rules Formulated," by Dr. S. Birdsall, Susquehanna, Penn.
10. "Traumatic Neurosis, Resulting from Railway and other Accidents," by Dr. John Punton, Kansas City, Mo.
11. "Why Railroad Surgeons Should not try to Practice Aseptic Surgery," by Dr. Emory Lanphear, St. Louis.
12. "Railway Employees Hospital Associations," by Dr. Geo. Chaffee, Brooklyn, N. Y.
13. "One Fallacy Regarding Ununited Fractures, with Report of Cases," by Dr. E. R. Lewis, Kansas City, Mo.
14. "The Care and Management of Railway Injuries from First Dressing or Operation until Discharged by Surgeon, with Illustrative Cases" by Dr. N. A. Drake, Kansas City, Mo.

15. "Surgical Treatment of Injuries of Spinal Cord and Column," by Dr. T. H. Briggs, Battle Creek, Mich.
16. "Should We Have Pus in Railway Surgery," by Dr. Lester Keller, Ironton, Ohio.
17. "Stereopticon Views of Deformities Following Fractures," by Dr. Geo. W. Crilley, Cleveland, Ohio.
18. "Atony From Traumatism," by Dr. J. N. Dickson, Springfield, Ill.
19. "What Stimulants, How and When to use Them in Cases of Accident," by Dr. E. O'Neill, Kane, Penn.
20. "Inflammation of Bones," by Dr. A. J. Fulton, Kansas City, Mo.
21. "Hot Water Irrigation of the Eye in the Treatment of Gonorrheal Ophthalmia," by Dr. Leroy Dibble, Kansas City, Mo.
22. "Tumors of the Lachrymal Gland," by Dr. A. Alt, St. Louis.
23. "Deflected Septum and Its Surgical Treatment," by Dr. J. A. James, St. Louis.
24. "Conservative Treatment of Injuries to Large Vessels with Reports of Experiments and Clinical Observation," by Dr. J. B. Murphy, Chicago.
25. "Traumatism of the Eyeball," by Dr. Cassius D. Westcott, Chicago.
26. "Mental Shock in Railway Accidents and Its Hysterical Out Croppings," by Dr. Keating Bauduy, St. Louis.
27. "Roentgen's or 'X' Rays and Their Value to the Scientific Physician and Surgeon with Demonstrations," by Dr. Wellington Adams, St. Louis.
28. "Capital Operations Without Anesthesia and the Use of Large Saline Effusions in Acute Anemia," by Dr. J. J. Buchanan, Pittsburg, Pa.
29. "A Case of Strangulated Inguinal Hernia with Unusual Medico-Legal Aspect," by Dr. Allen Staples, Dubuque, Iowa.
30. "Injuries to the Joint," by Dr. Milton Jay, Chicago.
31. "The Immediate Treatment of Compound Fractures," by Dr. Waldo Briggs, St. Louis.
32. "Railway Neurasthenia," by Dr. T. O. Summers, St. Louis.
33. Paper (title not given), by Dr. A. L. Right, Carrol, Ia.
34. An Address Upon Surgery, by Dr. John B. Deaver, Philadelphia.
35. "Diagnostic Relations of Hysteria, Neurasthenia and Traumatic Neurosis," by Dr. Harold M. Moyer, Chicago.
36. "Nephritic Calculi," by Dr. W. S. Caldwell, Freeport, Ill.
37. "The Future of Railway Surgery," by Hon Clark Bell, New York.
38. "Injuries to Joints," by Dr. Milton Jay, Chicago.

The Committee of Arrangements merely publish this list of papers up to date, other important papers are promised, and will be published in the regular program.

Medical journals will please copy.

American Academy of Medicine.

Preliminary "press notice" of the twenty-first annual session at Atlanta, Georgia: The twenty first annual session of the American Academy of Medicine will be held at the Hotel Aragon, Atlanta, Georgia, Saturday, May 2, and Monday, May 4, 1896. The proprietors of the Aragon have made special rates for those who attend the meeting; it is expected that the concession for one and one-third fare for the round trip granted to the American Medical Association will be available in time for those who desire to attend the opening session; a pleasant excursion can be arranged to start from Philadelphia and visit Ashville, N. C., the "Land of the Sky," and Chattanooga, *en route* to Atlanta, if a sufficient number club together for that purpose; or special Pullman cars can be chartered for the exclusive use of those who attend the meeting for the direct route to Atlanta from any rendezvous selected. The Secretary invites correspondence on any of these topics, and also from those who desire a copy of the completed program, when it is issued; full information will be promptly given on application.

Provisional Program: The Academy will meet in executive session with closed doors on Saturday, May 2, at 10 A.M. The open session for the reading of papers will begin at 11 A.M. The reunion session and annual dinner will be held on Saturday evening. An executive session will be held on Monday, after which the special discussion on "Methods of Medical Education" will be the order of the day. The Association of American Medical Colleges and the Confederation of the State Boards of Medical Examiners and Licensers, have accepted the invitation of the Council and will participate in this discussion. The time-table for the day and the time for adjournment will be determined by the circumstances.

Papers promised: (Note. No attempt is made to arrange the papers in the order in which they are to be read.) 1. "Laboratories and Hospital Work," the President's Address, Henry M. Hurd, Baltimore, Md. 2. "Colonies for Epiletics," Frederick Peterson, New York City. 3. "Insanity in the South," J. T. Searcy, Tuscaloosa, Ala. 4. "Tuberculosis in Public Institutions," J. W. Babcock, Columbia, S. C. 5. "Vivisection," George M. Gould, Philadelphia. 6. Subject not yet given. Woods Hutchison, Iowa City, Iowa. 7. "The Confusion of Pharmacy Relating to the Theory and Practice of Medicine," Elmer Lee, Chicago. 8. "A National Board to License for the Practice of Medicine," Henry Leffmann, Philadelphia. 9. Report of the Committee to Abstract the Laws Regulating the Practice of Medicine and to Suggest a Model Law, Perry H. Millard, Chairman, St. Paul, Minn. 10. "Homocides," Paul Bartholow, Philadelphia. 11. "The Sociologic and Scientific Attitude of the Medical Profession," W. J. K. Kline, Greensburg, Pa. 12. "A Study of Some of the Distinguishing Features of the Homo Medicus," Charles McIntire, Easton, Pa.

Discussion on "Methods of Medical Teaching:" This discussion will be opened by a series of ten minute papers, and in the discussion to follow, each speaker will be limited to five minutes. The papers are as follows: 13. "The Preparatory Mental Discipline for the Medical Student," F. H. Gerrish, Portland, Me. 14. "The Lecture and Its Uses," Charles B. Penrose, Philadelphia. 15. "Text-book Recitation and its Advantage," De Lancey Rochester, Buffalo. 16. "Laboratory Methods," V. C. Vaughn, Ann Arbor, Mich. 17. "Clinical Teaching for Graduates in Diseases of Children," J. Madison Taylor, Philadelphia. 18. "The Seminary Method," Bayard Holmes, Chicago. 19. "Examinations," E. L. Holmes, Chicago. 20. "Students' Medical Societies," Roswell Park, Buffalo. 21. "State Examination," J. McPherson Scott, of the Maryland Board of Examiners, Hagerstown, Md. 22. "The Best Method to Teach Anatomy," John B. Roberts, Philadelphia. 23. "The Best Method to Teach Physiology," Charles D. Smith, Portland, Me. 24. "The Best Method to Teach 'Practice,'" J. C. Wilson, Philadelphia. 25. "The Best Method to Teach Surgery," J. S. Wight, Brooklyn. 26. "The Best Method to Teach Obstetrics," J. C. Edgar, New York City. 27. "The Best Method to Teach State Medicine," George H. Rohe, Catonsville, Md. Correspondence is pending about some additional papers; if any more are promised, the titles will appear in the completed program.

CHARLES MCINTIRE, Secretary,
Easton, Pa.

American Medical Association.

The Forty-seventh Annual Session will be held in Atlanta, Ga., on Tuesday, Wednesday, Thursday and Friday, May 5, 6, 7 and 8, commencing on Tuesday, at 10 A.M.

"The delegates shall receive their appointment from permanently organized State Medical Societies, and such county and district medical societies as are recognized by representation in their respective State societies, and from the medical department of the Army and Navy, and the Marine Hospital Service of the United States.

"Each State, county and district medical society entitled to representation shall have the privilege of sending to the Association one delegate for every ten of its regular resident members, and one for every additional fraction of more than half that number: *Provided*, however, that the number of delegates for any particular State, Territory, county, city or town, shall not exceed the ratio of one in ten of the resident physicians who may have signed the Code of Ethics of the Association."

Members by Application.—Members by application shall consist of such members of the State, county and district medical societies entitled to representation in this Association as shall make application in writing to the Treasurer, and accompany said application with a certificate of good standing, signed by the

President and Secretary of the Society of which they are members, and the amount of the annual subscription fee, \$5. They shall have their names upon the roll, and have all the rights and privileges accorded to permanent members, and shall retain their membership upon the same terms.

OFFICERS OF THE AMERICAN MEDICAL ASSOCIATION, 1895-96.

GENERAL OFFICERS.

President—R. Beverly Cole, California.
First Vice-President—J. J. Chisolm, Maryland.
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Board of Trustees—J. E. Woodbridge, Ohio, (unexpired term) 1896; E. E. Montgomery, Pennsylvania, 1896; E. F. Ingals, Illinois, 1896; Jos. Eastman, Indiana, 1897; J. T. Priestley, Iowa, 1897; D. W. Graham, Illinois, 1897; Alonzo Garcelon, Maine, 1898; J. E. Reeves, Tennessee, 1898; I. N. Love, Missouri, 1898.

Judicial Council, 1895-96—Elected 1895: N. S. Davis, Illinois; H. D. Didama, New York; John Morris, Maryland; W. E. B. Davis, Alabama; Daniel R. Brower, Illinois; D. W. Smouse, Iowa; M. B. Ward, Kansas, (for three years); W. M. Welch, Pennsylvania, (one year). Elected 1894: D. W. Crouse, Iowa; R. C. Moore, Nebraska; T. D. Crothers, Connecticut; G. B. Gillespie, Tennessee; W. T. Bishop, Pennsylvania; C. H. Hughes, Missouri; Ida J. Heiberger, District of Columbia. Elected 1893: X. C. Scott, Ohio; G. W. Stoner, U. S. M.-H. Service; J. McFadden Gaston, Georgia; T. A. Foster, Maine; I. N. Quimby, New Jersey; H. Brown, Kentucky.

Address on Medicine—William Osler, Maryland.

Address on Surgery—Nicholas Senn, Illinois.

Address on State Medicine—Geo. H. Rohe, Maryland.

Place of Meeting—Atlanta, Georgia, May 5-8, 1896.

OFFICERS OF SECTIONS, 1895-96.

Practice of Medicine—Wm. E. Quinn, Chicago, Ill., Chairman; DeLancey Rochester, Buffalo, N. Y., Secretary.

Surgery and Anatomy—C. A. Wheaton, St. Paul, Minn., Chairman; W. L. Estes, So. Bethlehem, Pa., Secretary.

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Surgery and Anatomy—J. Ransohoff, Cincinnati, Ohio; John B. Roberts, Philadelphia, Pa.; J. T. Jelks, Hot Springs, Ark.

Obstetrics and Diseases of Women—F. H. Martin, Chicago, Ill.; Jos. Eastman, Indianapolis, Ind.; J. Milton Duff, Pittsburg, Pa.

Ophthalmology—Edward Jackson, Philadelphia, Pa.; Albert R. Baker, Cleveland, Ohio; S. D. Risley, Philadelphia, Pa.

Laryngology and Otology—J. F. Fulton, St. Paul, Minn.; E. F. Ingals, Chicago, Ill.; E. L. Shurly, Detroit, Mich.

Diseases of Children—Edward H. Small, Pittsburg, Pa.; W. S. Christopher, Chicago, Ill.; C. G. Jennings, Detroit, Mich.

Materia Medica and Pharmacy—W. H. Whelpley, St. Louis, Mo.; F. Woodbury, Philadelphia, Pa.; F. E. Stewart, Detroit, Mich.

Physiology and Dietetics—M. H. Woolsey, Oakland, Cal.; I. N. Love, St. Louis, Mo.; (one vacancy).

Neurology and Medical Jurisprudence—D. R. Brower, Chicago, Ill.; J. G. Kiernan, Chicago, Ill.; C. K. Mills, Philadelphia, Pa.

Dermatology and Syphilography—A. E. Rogensburger, San Francisco, Cal.; A. H. Ohmann-Dumesnil, St. Louis, Mo.; L. A. Duhring, Philadelphia, Pa.

State Medicine—L. H. Montgomery, Chicago, Ill.; G. W. Stoner, Baltimore, Md.; C. A. Lindsley, New Haven, Conn.

Dental and Oral Surgery—M. H. Fletcher, Cincinnati, Ohio; E. S. Talbot, Chicago, Ill.; A. E. Baldwin, Chicago, Ill.

The American Climatological Association.

The thirteenth annual meeting will be held in Lakewood, N. J., on May 12 and 13. The preliminary programme includes the following papers: "The Difficulties Attending Climatotherapy," by Dr. James B. Walker, of Philadelphia; "Laryngeal Vertigo," by Dr. F. I. Knight, of Boston; "Sensible Temperatures," by Dr. W. F. R. Phillips, of Washington; "Clinical Reports of Serious Heart Lesions without Well marked Continuous Physical Signs," by Dr. H. L. Elener, of Syracuse; "Mitral Disease," by R. G. Curtin, of Philadelphia; "Febrile Endocarditis in the Aged," by Dr. W. M. Gibson, of Utica, N. Y.; "The Climate of Arizona," by Dr. Mark A. Rodgers, of Allegheny, Pa.; "The Influence of Climate on Genito-urinary Tuberculosis," by Dr. J. C. Munro, of Boston; "The Treatment of Cervical Adenitis," by Dr. E. Fletcher Ingals, of Chicago; "Remarks on the Climate of Mount Pocono, Pennsylvania," by Dr. L. D. Judd, of Philadelphia; and "The Present Treatment of Homoptysis," by Dr. Charles E. Quimby, of New York. Other papers will be read by Dr. Otis, of Boston, and Dr. Judson Daland and Dr. W. D. Robinson, of Philadelphia.

ABSTRACTS

MEDICINE.

The Alimentary Value of Albumoses.—In a preceding article (*Flandre Medicale*, 1895, p. 289), we began the study of the nutritive value of the albumoses, which are the nearly exclusive components of the preparation which the Farbenfabriken vorm. Fr. Bayer, of Elberfeld, has placed upon the market under the name of "Somatose." This paper, however, only referred to preliminary and incomplete observations.

In order to obtain more convincing proofs of the nutritive value of Somatose, we requested our friend, Dr. Vande Weghe, of Gendbrugge, to administer this substance as an exclusive diet in cases of typhoid fever. This regimen seemed to be all the more indicated in that, from the experiments of Hildebrandt (*Verhandl. des XII Congr. f. inn. Medicin zu Wiesbaden* 1893, and *Zeitschr. fur Physiol. Chemie*, Bd. Bd. XVIII, 1893, S. 180), Somatose is absorbed in large proportion by the stomach itself. Hence we must avoid that disadvantage in the alimentation of typhoid patients, which consists in the introduction within the intestinal tube of elements that are slowly and incompletely absorbed, and therefore capable of irritating still further the intestine that is specifically inflamed and of serving as a substratum for the more active development of the pathogenic germs.

This is what takes place, though to a lesser degree

than with solid food, when the diet consists in relatively large amounts of cow's milk since the casein is precipitated in large lumps, the digestion of which is far from being always easy.

Vande Weghe gave Somatose to 7 patients suffering from typhoid fever, of more or less severe types, and of whom 3 were adults from 21 to 24 years, and 4 were children, aged 6 to 10 years.

The Somatose was stirred in very light broth or in milk considerably diluted, in proportions just sufficient to allow of the dilution and administration of the Somatose. The dose varied from 3 to 4 teaspoonfuls in the 24 hours. This diet was continued during the whole course of the disease and even during convalescence. Thirst was allayed with water that had been boiled and cooled, to which was added about 4 per cent of sugar.

In six of the patients the disease pursued a most regular course and ended in recovery after an average lapse of 22 days. Dr. Vande Weghe felt convinced that the temperature in general was less high under the influence of this diet than under that composed of milk and bouillon in relatively large quantities, which he formerly prescribed for his typhoid patients.

The diarrhea was moderate. In no instance did he observe any disagreeable phenomena relating to the stomach or intestine.

In two cases there was even some tendency to constipation.

In one patient only, a young man aged 23, the typhoid fever was complicated during the third week, by a pleuro-pneumonia, which caused death.

All the patients enjoyed taking the Somatose, which never caused any disgust, even after a prolonged administration. As a matter of fact it rather caused an increase of appetite.

The strength of the patients was perfectly sustained under the influence of this nearly exclusive Somatose diet, and convalescence was rather short. Passing slowly and progressively to a more solid regimen, no tendency to recurrence was observed. We must also mention that in the six cases that recovered no other medication was employed.—*Dr. DeBuck.*

Uremic Pericarditis.—Pericarditis is a frequent complication of chronic nephritis. From an editorial examination of the subject published in a recent issue of the *Journal of the American Medical Association*, we learn that Buhl estimated the frequency at thirty five per cent of the observed cases; Bamberger, at fourteen per cent, and Wagner observed pericarditis fourteen times in one hundred and fifty cases of chronic nephritis. Many of the earlier writers believed the cause of this inflammation of the pericardium as well as of other tissues in the course of chronic nephritis to be toxic substances circulating in the blood which the kidneys failed to eliminate. Under the influence of the study of bacteriology the opinion gained ground that pericarditis in connection with nephritis must be due to an accidental infection, and this was the view expressed by Lecorche

and Talamon in their treatise on albuminuria and Bright's disease published in 1888. It is self evident that in order to determine the exact cause of the pericarditis in a given case, resort must be had to the modern microscopic and bacteriologic examination of fresh material as soon after death as possible. There are already a few records published of the examination of such cases and especially by Banti, of Florence. He described a case of pericarditis in a uremic in 1888 (*Deutsche med. Wochenschrift*, No. 44, 1888) in which the exudate and the tissue of the pericardium seemed absolutely free from bacteria as far as could be determined by microscopic examination, by culture experiments, and by inoculation into animals. Baumgarten (*Baumgarten's Jahresbericht*. Bd. iv.) was inclined to think that the inflammation in this case was due to micro-organisms that had died before the material was examined, but Banti was not inclined to accept this criticism, because the pericarditis had existed only seven days before death. Last year (*Centralblatt für allg. Path. u. Path. Anat.*, Bd. v., No. 11) Banti described a new case of pericarditis in uremia due to arteriosclerotic interstitial nephritis, in which the exudate and the tissue of the pericardium were found free from microbes after the most thorough examination according to the best methods. Aerobic and anaerobic culture experiments were made with large masses of the exudate upon a variety of media, but all remained sterile. In this case the clinical manifestations pointed to the existence of the pericarditis for about four days before death. Banti consequently concluded that in the light of the results obtained from the study of these two cases, the pericardial inflammation was due to toxic substances circulating in the blood in consequence of failure of elimination through the diseased kidneys. He then made some animal experiments and found that rabbits in which the pericardium had been cauterized developed a more marked fibrinous pericarditis after nephrectomy or ligation of the ureters than did animals in which the cauterization of the pericardium only was made and which were killed after the same length of time in which the uremic animals died. While these experiments were not conclusive, yet they seem to support the theory of uremic pericarditis. In October, 1894, Beco (*Centralblatt für allg. Path. u. path. Anat.*, Bd. v. No. 19), describes a germ-free case of sero fibrinous pericarditis in a chronic nephritic, which he is inclined to interpret as due to toxic substances produced by the bacillus coli communis which was present in the blood and in the spleen. This view is supported by certain experiments of Charrin (*Sem Medicales*, 1894, No. 42, p. 337), which seem to show that the bacterial toxins may cause serositis without the immediate presence of the corresponding micro-organisms. In March, 1895, (*Centralblatt für allg. Path. u. path. Anat.* Bd. vi., No. 5), Banti describes two additional cases of uremic pericarditis in which there were no bacteria either in the pericardium, in the blood, or in the spleen, and he concludes that the presence of the bacillus coli communis that

Beco found in his case was accidental and due to agonal or post-mortem invasion. From these interesting observations it does not seem unreasonable to believe that there may be a "toxic inflammation" independent of all direct bacterial influence. Such observations as Banti's and others indicate the necessity of a thorough bacteriologic examination of all cases of pericarditis and other serositis in connection with the kidney lesions in general. The results obtained are in full harmony with the views concerning auto intoxication that are rapidly gaining credence at the present time.—*Med. Record*,

A Case of Transposition of the Viscera, or Dextro-Cardia.—Dr. W. H. Haynes of Brooklyn in the *Medical Journal* says: The subject, H. P., is a colored man, aged 27, born at Riverhead, L. I., married, and does general laboring work for a living. The condition was discovered when he was three years old through accidentally fracturing his right clavicle, during the treatment of which the attending physician discovered it. He has never had any pulmonary or other serious complaint, but says he was refused life insurance on account of the condition by the medical examiner.

At present he is five feet seven inches tall, weighs 137 pounds, is right-handed, flat chested, with apex beat of heart distinctly seen and felt in the fifth interspace, on a line with or a little internally to the right nipple. The heart sounds are plainly heard to the right of the sternum, with dullness on percussion all over this region, and not to the left of the sternum, where there is resonance on percussion, and the respiratory murmur is clearly heard in the usual location of the heart. The liver, as shown by flatness on percussion, is mapped out, lying in the left hypochondriac region, while there is resonance all over the right side in its usual location, excepting laterally and behind over a small area, supposedly the spleen. The rectum passes upward, backward, and to the left, as is usual. He enjoys good health, and is the father of four children.

There are two varieties of congenital dextro cardia, one associated with transposition of the abdominal viscera and the other when it is not so accompanied. The first form is the most common of this freak of nature, of which our case is an example, and of which we read in the journals of others being found at intervals, the last being that of a child lately reported in the New York *Medical Record* for the past month.

In 1884 Byrom Bramwell, in his work on "The Heart and Its Diseases," page 105, reports that in fifteen years of special work in this direction he had met with two cases of this form of dextro cardia and at the same time reports a case where the heart was the only organ transposed, and says that, with another case verified post-mortem, they are the only two he knows of that have been recorded in English literature up to that time (1884). To this small number, after quite an extended search, I can add another case of this character, reported by Dr. Frank Lydstrom in the New York *Medical Re-*

cord for July 21, 1883, and also recorded by Alonzo Clark in his little book on "Diseases of the Heart," page 232. A case of still rarer form of transposition of the viscera is reported in the "Transactions of the New York Pathological Society" for 1886, where the anomaly only related to the abdominal organs, the thoracic being located naturally, the heart on the left side.

It is a condition not generally known to its possessor and well to be kept in mind, as the following incident will show: A patient suffering from cancerous stricture of the rectum was colotomized on the left side in the usual way without affording any relief, and at the autopsy the sigmoid flexure was discovered on the right side and the ascending colon on the left.

The apparent uninvolvedness of the rectum and, of course, supposedly the colon in the transposition, as shown by the rectal examination in my case, is explained by the autopsy of two other cases to be due either to the sigmoid flexure crossing over from the right side to the left of the pelvis, or to a doubling on itself of the descending colon and then passing out as is usual.

Guttmann, in demonstrating a case of transposition of the viscera before the Berlin Medical Society, says that from more than one hundred cases collected by him the anomaly is found more frequently in men than in women, the proportion being as two and a half to one; in ninety per cent it is found in all the organs of the thorax and abdomen; in ten per cent in the abdomen alone. Simultaneous transposition of the viscera of the thorax and abdomen is complete in seventy-five per cent of all cases. The duration of life is not influenced by this malposition, as more than half of the reported cases reached ages varying from twenty to eighty-four years.

Gruber comments upon seventy-nine cases studied by himself. Of them seventy-one were cases of general transposition of all thoracic and abdominal viscera; in eight only abdominal. Forty-nine subjects were men, nineteen women, and in eleven the sex was not stated. The spleen was wanting in three cases, rudimentary in one, bisected in one, trisected in another, and accompanied by accessory spleens in three cases. There was an abnormal position of the kidneys in eight cases, in one case there existed only one kidney, and in one case the spermatic vessels were not transposed.

According to Hyrtl, persons with complete transposition of the viscera were usually left-handed; especially when the heart was on the right side. Of seventeen reported cases in which this point was noted fifteen were right-handed.

Referring to the etiology of the displacement, we may mention the theory of Von Baer, who attributes it to a deviation of the umbilical vesicle, which precedes in the order of development both the heart and the liver. This normally occupies the median line of the body, inclining later a little to the right. Should this deviation, however, incline the vesicle to the left, transposition of the viscera follows.

Rindfleisch accepts the displacement of the heart as the prime factor in the general transposition, and offers as an explanation of its occurrence the following theory: Every column of liquid which flows through an elastic tube under strong pressure experiences a spiral torsion, and the same physical law may be held to apply to the blood column, which like other fluids under similar circumstances, communicates its spiral motion to the vessel containing it. The primitive heart-sac, therefore, acts like a twisted cylinder, and under normal circumstances the direction of the spiral turn is from left to right, so that the lower extremity of the spire, subsequently to become the apex of the heart, falls to the left. Should, however, the spiral turn assume the other direction, so that the apex falls to the right, the result will be a complete inversion of the non-symmetrical viscera, which are not formed until a subsequent period, and thus splanchnic inversion must follow.

This explanation, purely theoretical as it is, still leaves us in the dark as to the cause of the unnatural deviation of the spiral to the right side or of the transposition of the abdominal viscera alone, nor is it likely that the solution will soon be forthcoming. Leaving aside the question of primary etiology, it certainly is more in accordance with the general harmony of nature to assume that one of the earliest developed organs should exercise such an influence over the remainder as to regulate their position by its own, than that the anomaly should affect each of the misplaced organs individually. We know that the circulatory system is one of the first to show itself in the newly formed being; that in the chick the contractions of the heart are apparent as early as the thirtieth hour of fetal life (Kolliker), and it is very reasonable to suppose that an anomaly of position, affecting the heart in the early stages of its development, should not remain without influence on the other viscera, whose growth and development are largely dependent upon that very circulation of which the heart constitutes so important a part.

In one case reported the autopsy mentions the heart cavities as being completely reversed or turned over like turning backward the pages of a book.

Literature: (chiefly) Byrom Bramhall, "Diseases of the Heart," 1884; Alonzo Clark, "Diseases of the Heart," 1884; "Transactions of the New York Pathological Society," 1886; Eichberg, in the *Medical News*, March 22, 1884; Collins in the *New York Medical Record* for April 15, 1893; besides scattered reports of isolated cases.

The Remissions of General Paresis.—The remissions of this disease rarely occur in any but the early cases, which leads us to infer that the primary change is more in the line of a functional one, affecting the nutrition. Opportunities for observations on autopsy in early cases are quite rare. In a case reported by Berkeley, which was probably one of Mickle's "galloping cases," the disease had existed but nine months. There was marked vascular change, degeneration of the

blood-vessel walls and a disturbance of the lymph current. The assumption was that the degeneration of the neurons was consequent upon a disturbed cellular metabolism.

The interesting point of this case was the great change in nervous structure after so short a duration of the disease.

The remissions of the early period are generally less noticed, because the physician is rarely consulted in the beginning. If he is, it often appears as a neurasthenia or other mild nervous disorder. It is fair to presume, at least theoretically, that if the diagnosis can be established at a very early period, before a destructive change occurs in the neuron itself, the remission, by proper treatment, may be led to permanent recovery. Special emphasis is to be placed upon the fact that alcoholic insanity or pseudoparesis, in their improvement, should not be confounded with the remissions of true paresis, spoken of in this paper.

Seven cases occurred under the writer's observation at the Utica State Hospital, in which there were marked remissions, varying in length from a few months to years, showing a different degrees of improvement from a feeble-mindedness to nearly a complete restoration of mental vigor. The first case had a remission of two months, and seemed to gain mental and physical tone, but finally succumbed to apoplectiform convulsions. The second case, although possessed of a strong hereditary, alcoholic, and Keeley-cure history, had a remission of a year, but finally succumbed to paretic convulsions. In the third case, after paresis had become well marked even to the point of convulsions, the patient regained fairly good mental health and remained in this condition for three years, but finally died in paretic convulsions. The fourth case had a remission of nearly one year. The fifth case had several remissions, and after paresis was very well marked, one remission lasted for over two years, but finally the patient died in a convulsion. The sixth case had a remission for one year, after developing grandiose ideas and physical signs of paresis. The seventh case remained well and was employed as a clerk for one year, after a stay at the hospital of several months, during which time he presented all the typical symptoms of paresis. Through the influence of business reverses, he became again afflicted, and returned to the hospital, and is once more typically paretic.

The reviewer is aware that in some of our largest asylums for insane, where many cases of paresis come under observation yearly, the books on close examination show many paretics admitted for the second time, in which the diagnosis was written in ink over lead-pencil marks of "acute mel." and "acute mania."

In these instances it seems that the first diagnosis was incorrect, and that the patient had been suffering from paresis from the first, and that his discharge marked only a decided remission from the disease.—Steele in *Med. Rec*; *Amer. Med.-Surg. Bulletin*.

Treatment of Diseases of the Sigmoid Flexure.—Baughman (*Matheus' Medical Quarterly*) calls attention to the fact that the sigmoid flexure is more liable to a train of disturbances than any other portion of the colon, from the fact that it is the store-house or receptacle where the feces are retained until their expulsion in the act of defecation. The rectum is almost entirely devoid of feces, except just at the time of and just before defecation. The fecal mass is retained in the sigmoid flexure until certain periods, when it descends into the rectum, producing a desire to go to stool, and if this desire is not gratified the mass of feces is lifted back into the sigmoid, where it remains until another desire for defecation; and even if all the fecal mass is not expelled from the rectum the remaining portion is lifted back into the sigmoid, where it remains.

The powers of the colon for absorption are very great, and all of the watery portion of this retained fecal mass is soon absorbed into the system and leaves a dry, hard mass in contact with the tender mucous membrane, which often brings on a train of diseases of this part that, unless relieved by appropriate treatment, results in confirmed invalidism.

While part of the functions and diseased conditions of the entire large intestine are similar, the sigmoid has various functions to perform and is the prey of various diseases that we seldom or never have higher up in the gut, but at the same time it is almost impossible to clearly separate them in diagnosis and treatment. The sigmoid flexure is more often the seat of obscure abdominal disease than has generally been suspected, and if we would pay more attention to the rational and common sense treatment of the sigmoid we would get more cures and clear up many of these troubles. There are a great many cases of chronic diarrhea and chronic dysentery that go uncured for years and cause the patient untold suffering, and finally result in death, which if located in the sigmoid flexure and given appropriate local treatment, would be cured. This is true to a great extent of the entire colon.

The various troubles in the sigmoid are inflammation and all its attendant evils, beginning with congestion, and too often terminating in ulceration, stricture, and cancer. It is very often impossible to diagnose just what the trouble is. The symptoms are often vague and misleading, and only by the most painstaking examinations are we led to the truth. We most frequently have diarrhea, but on the other hand we frequently have constipation. Deep pressure over the left iliac region will generally elicit some pain if there is any serious disease in the sigmoid. It is very difficult to arrive at any positive conclusion as to tumors in this region, unless in the case of a very lean patient. We generally find vague pains through the abdomen and thence, also in the bladder, uterus, and prostate, with disordered action in these parts. The most positive conclusions are obtained from the fecal evacuations. The patient generally complains of passing a great deal of matter at each evacuation, and often suffers pain in the lower part of the abdomen just

before evacuation, and this pain is worse in the left iliac region. The physician should invariably see the evacuation, for the statement of the patient is often misleading, and it is from the nature of the evacuations that we are to learn most in our diagnosis. If we find that the discharges contain much mucus and no pus, we may be pretty sure there is no ulceration, but only a congested state of the mucous membrane, with perhaps a beginning of inflammation. To say just where congestion ends and inflammation begins is a very nice point in diagnosis, and one that is not often attained. If there is pus in the discharges, we know we have to deal with a severe form of inflammation, and most likely ulceration; if blood and pus, we may feel very certain there is ulceration in some portion of the large intestine, and the chances are that if ocular and digital examination has shown the rectum to be healthy, this trouble is located in the sigmoid. If there is no specific trouble and nothing to indicate malignancy, these various divisions of congestion, inflammation and ulceration will be of great service to us in our prognosis.

A simple congestion should, as a rule, yield to appropriate treatment. If the disease has existed for some time, we generally find emaciation, and if there is much ulceration the sufferer is completely exhausted after each evacuation, of which there are often eight to ten in the twenty-four hours, containing mucus and pus.

The best treatment for a simple congestion or inflammation of the sigmoid flexure is, to begin with, an aperient of some kind, preferably sulphate of magnesia, and after the bowels have been thoroughly evacuated to introduce a Wales rectal bougie, No. 5, until it passes into the flexure, and then with a household or Davidson syringe, with the nozzle tightly fitted into the cavity of the bougie, to inject about half a gallon of hot water holding in solution from half an ounce to an ounce of boric acid. This should be retained five or ten minutes, and the injection repeated every twenty-four hours. The patient should also take but a moderate degree of exercise. A soft diet should be enjoined—oysters, milk, coffee, mush, soft-cooked eggs—with a very small amount of bread and but very little if any meats. Salol is a good internal antiseptic, but if there is any tendency toward diarrhea one drachm of subnitrate of bismuth should be given often enough to keep the bowels from acting more than once in the twenty-four hours, and the patient should go to stool just after the morning meal. After two or three days the bismuth will only have to be taken once a day, and then once in two days. It is claimed that the bismuth reaches the colon unabsorbed and acts as an antiseptic. Its healing qualities are well known.

The injections of hot water and boric acid should be kept up for five or six days, when the mucous membrane of the intestine will be in condition to receive a healing application. One to two drachms of fluid hydrastis should be diluted in two ounces of warm water, and injected into the sigmoid, the patient being kept very quiet for from one half to one hour after, so that the

medicament may remain for an indefinite time in the sigmoid. Once in twenty four hours is often enough for this application.

After a few days it is well to use an injection of almond oil, iodoform, and subnitrate of bismuth, instead of the hydrastis; one ounce of the oil, with eight grains of iodoform and one drachm of bismuth, is about right for a single injection, and this may be kept up for some time, occasionally alternating with the hydrastis. It is well occasionally to wash out the bowel with the hot water and boric acid.

Most cases of a simple inflammatory character in the sigmoid may be cleared up by this treatment, and many cases of chronic diarrhea, dysentery, and constipation of years' standing may be cured, provided the inflammatory process has not produced organic changes that are beyond relief.—*Therap. Gazette.*

The Phonendoscope.—The *Lancet* gives an account of a new instrument to which the name phonendoscope has been given by the inventors, Professor Eugenio Bazzi and Professor Aurelio Bianchi. For this invention, says the writer, the statements advanced in support of its superiority over the stethoscope are startling. It is stated that the phonendoscope is useful for hearing the following sounds: 1. The sound of the respiratory organs, of the circulation of the blood, and of the digestive organs in the healthy body as well as in the sick subject. 2. The sounds made by the muscles, joints, and bones. 3. The sounds in the matrix at the time of pregnancy and the noise provoked by the fetus. 4. The sound of the capillary circulation. 5. The slightest sound produced in any diseased condition of the body; hence it is possible to draw on the body the dimensions, the position, or any alteration in the position of the various organs and of the fluids which have gathered in the most important cavities of the body. 6. The sounds in the ear, the eye, the bladder, the stomach, and the intestines. We can only say, says the *Lancet*, that if all this is true, then the instrument is indeed an acquisition, and its employment will call for the expansion of treatises on auscultation to new fields of research. Perhaps to ascertain all the sounds above enumerated requires prolonged and special training in the use of the phonendoscope, but all that we have been able to do in a comparatively brief acquaintance with the instrument is to carefully test its conducting powers in comparison with those of the ordinary stethoscope. This trial has resulted in a verdict in favor of the new invention as a superior conducting medium of the sounds of the heart and lungs, normal and abnormal; although even this statement must be guarded by the admission that if the observer is not careful he is apt to get confused by adventitious sounds created by the instrument itself. Its best service will probably be found in the detection of faint murmurs and in the readiness with which the heart sounds can be heard through several layers of clothing.

The instrument consists of a circular flat metal box or tympanum having on one surface two apertures for

the attachment of the rubber ear-tubes, while the other surface is formed by a thin disc which is readily thrown into vibration. The best results are obtained by simply applying the disc to the surface to be examined. By an ingenious contrivance a second disc can be superposed upon this one and a vulcanite rod attached to the former, so that the area of auscultation may be extremely circumscribed. The conduction of the sounds is only slightly diminished by the use of this rod, which thus combines the principle of the solid stethoscope with that of the tympanum. The rod furnished with the instrument is about two inches in length, but it is stated that there are other rods of various lengths to enable the "phonendoscopist" to receive sound-vibrations from the natural cavities which communicate with the exterior of the body. Although, says the *Lancet*, we consider the instrument highly ingenious, carefully and compactly constructed, useful as aid to auscultation, but yet not likely to entirely supersede the use of the stethoscope. It may be found useful in class demonstration, since it would be easy by means of branched tubes to enable several persons to listen at the same time.—*New York Med. Jour.*

The Hygiene of the Face.—The March number of the *Edinburgh Medical Journal* contains an abstract of an article from the *Medical News and Circular* in which the writer remarks that to a very large proportion of the human race in civilized countries the face is, under the designation of the complexion, the subject of considerable and painstaking interest. Even those most exempt from vanity would prefer to have a physiognomy not readily identifiable by a more or less symmetrical crop of pimples; and a congested nose is not regarded as a thing of beauty, even in an omnibus driver. Yet, he says, in spite of this general feeling in favor of a normal complexion, ignorance and carelessness between them wreak havoc, and it is the exception to meet with cheeks that have seen more than twenty summers which do not betray traces of ill-treatment. Apart from indigestion and constipation—two potent factors in the ruin of a naturally healthy complexion—there are various forms of mismanagement which conduce to blotchiness and pimply deformities. Among them must be ranked the practice of washing the face with hot water, a widespread form of self-indulgence in cold weather. The hot water, especially when reinforced by a course of unduly alkaline soap, removes an unduly large proportion of the natural fat of the skin, leaving it with a roughened surface, which is very apt to excoriate or "chaf," and requires more frequent washing to keep it clean, owing to its catching the dust. Nothing, says the writer, probably does so much to age the skin as the frequently repeated ablutions with hot water, and this may explain why the dainty French woman prefers to smear off the grime with the corner of a handkerchief steeped in glycerin, knowing by experience that good, honest soap and water will, in the long run, prove detrimental to the preservation of a healthy skin.—*New York Med. Jour.*

SURGERY.

Extirpation of the Kidney for Malignant Tumors.—Jordan (*Beit. zur klin.*) This valuable contribution is based on a study of the cases observed at the Surgical Clinic at Heidelberg (Czerny's.) In 9 cases operated upon since 1889, the mortality has been 0 per cent. This compared with earlier statistics shows a wonderful improvement. The combined statistics of Gross, Brodeur, Liegrial and Tuffler gave an operative mortality of 62½ to 66 per cent.

The mortality in 12 cases operated upon by Czerny previous to 1889 was 75 per cent., which is striking contrast with the 9 cases operated upon since 1889 without a single death.

The final results are far more important than the operative mortality.

Of the 12 cases operated upon prior to 1889, only 3 survived. Of these 1 died six months later, a second two years later, and the third, in which a partial nephrectomy had been performed, had a recurrence one and one half years later, when total extirpation was performed. This case was well five and one quarter years after. Of the 9 cases operated upon since 1889, only 2 are still living, 1 a proliferating cystadenoma, well one and one-quarter years after operation, and one, angio-sarcoma, well five and one-quarter years.

Of the 7 other cases, 1 died two and one-quarter years after operation. A second had recurrence six and one-half months after total extirpation, and two and three-fourth years after partial extirpation; 3 died from three to five months after operation, and 2 had metastasis—1 three months after operation, and the other one year and ten months after operation.

Jordan states that out of 150 to 160 operations for malignant tumor of the kidney, only 5 cases remained well four years after operation.—*Amer. Med.-Surg. Bulletin.*

Infiltration Anesthesia (Schleich).—Hofmeister (*Brun's Beitrage*, B. xv, p. 563), reports on 100 cases in which this method of local anesthesia has been employed in Brun's Clinic at Tubingen, including atheromata, carpal ganglia, labial and nasal carcinoma, dermoids, warts, nevi, and angiomas of the face, lipomata, a walnut-sized recurrent mammary cancer, lupus; abscesses, ulcers, dental operations, phimosis, tenotomy of the tendo Achillis, the extraction of the needles and necrotic splinters of broken skull, tracheotomy and extirpation of goiter, in an amputation of the upper and lower arm, and in all cases of ligature of the vena saphena (10), and excision of the bed of ingrowing toenails (8) during the past year. In the vast majority of instances the success was complete; there was no pain, nor even consciousness of the knife. It was necessary to have recourse to general anesthesia—once in a gas tro-enterostomy, again in a mastoid abscess, where bone had to be removed, and in a plastic operation on a

child two years after division of fingers webbed up to their tips. Many patients, however, complained of the pain caused by the injections, and some with whitlows suffered a good deal, though the subsequent incision was not felt at all. In this respect different parts of the body vary; in the fingers and toes the injection must be very slow. Insensibility lasts from twenty minutes to half an hour, vanishing sooner where the blood supply is plentiful. Esmarch's bandage increases the effect, but the tube should not be applied till after the injections, at all events, not on fingers or toes. Intense burning and itching are commonly felt for twenty-four hours or more, but are no worse than the pain after anesthesia by freezing. The operation, at all events at first, is bloodless, a very great advantage in the extraction of needles, etc., but the tendency to secondary hemorrhage is somewhat increased, and anatomical recognition is seriously interfered with. Apart from the enormous thickening of the parts, their extreme tension prevents one from detecting such tissues as the vena saphena by touch, and an atheroma, an abscess, or even a solid tumor may be lost in the diffuse hardness. It is particularly difficult to differentiate successive layers of tissue—for example, to shell out a lymphatic abscess without opening the sac, and the added difficulty in performing such an operation as tracheotomy, even if successfully overcome by the skill of the operator, is not without prejudicial effect on the patient. The danger of the infiltration favoring infection does not seem to be great; in two cases only was there even a partial interruption of healing by first intention.—*Brit. Med. Jour.*

Surgical Morals.—In an article on this subject published in the *Boston Medical and Surgical Journal* for March 19, Dr. David W. Cheever says that in the present feverish condition of operative surgery it may be prudent to ask ourselves what is the object of an operation and how we should regulate our conduct in unforeseen contingencies. The problem, he says, may be condensed into the following questions: 1. When to operate. 2. When not to operate. 3. When to stop. 4. When not to stop.

In regard to the first question, says the author, if we confine our selection of cases to those which clearly come under the cardinal rule for operation—namely, to relieve suffering, to prolong life, or both—there will be very little difficulty in the choice. We must consider whether life is imperiled and whether the suffering can probably be relieved. If we are asked to operate, he says, shall we accept only good risks and decline the doubtful or hopeless cases?

The second question is a difficult one to decide. Operations should not be undertaken without the full consent of the patient and his family, if it is possible to obtain it, and there should be some responsible person who understands the nature of the operation to be done and what may be reasonably expected from it. No operation should be done when the patient is in a state of shock, unless hemorrhage, apnea, or obstruction of the bowels

is present, as in hernia, for example. If there is time, says Dr. Cheever, the systemic condition of the patient should be fully considered—for, example, as to the integrity of the heart, the arteries, and the kidneys. In a case of no emergency the age and the prospect of life of the patient should be taken into account. In cases of glandular infiltrations which are so extensive as to preclude perfect removal, he says, an operation should not be done, for instance, in a tuberculous organ, or in a sarcoma of the antrum where the sphenoid cells can not be extirpated. There are two important exceptions to this rule, however: 1. To relieve agonizing pain, an operation should be done on any slight chance, for, unless the suffering can be palliated, the patient had better die than live. 2. In a forlorn hope, so to speak, after the risk has been fairly stated, the patient is entitled to an operation, if he wishes it, and if he takes the responsibility; here, however, the limit must be those cases in which there are one or more chances of success.

In regard to the third question, says Dr. Cheever, must we stop when the patient fails? Not always, for the failure may be due to the anesthetic or even to simple nausea. In this case the surgeon should stimulate the patient and consider carefully before giving up the operation. Stopping, he says, is indicated when we come to the end of all that can be taken out—for instance, in a case of malignant tumor; in an operation in the abdominal cavity, when a glance or a touch reveals that the tumor is not removable and that it has grown into vital parts; in an operation on the surface of the body, when stopping will not imperil the life so much as going on; in syncope with a pulse at 108; with sighing respiration, and with a colliquative sweat.

Concerning the fourth question, says the author, When not to stop, keep on as long as the patient breathes; it is his only chance. The contingencies are: An operation which has so far displaced and broken up a soft internal tumor as to render death from bleeding or from sepsis certain if any is left; an oozing hemorrhage; a difficult tracheotomy; a crushed skull with a pulse of 40 and Cheyne-Stokes respiration. Having trephined, he says, we can not stop until compression is removed and the bleeding checked. Extravasation of urine, and a bladder to be drained; if the patient dies in the process, we must drain the bladder. If we do not do all these things, the patient dies; his only chance lies in their being done.

Surrounded with these terrible chances, says Dr. Cheever, the surgeon, like the executioner, raises or depresses his thumb, and the patient lives or dies. Surely, he says, there is no responsibility like this. All this should teach us, first, to be over-careful about getting in so deep that we can not withdraw, or about meddling with what had better be left alone. Second, not to imperil life to cover our mistakes, for we all make them. Third, in self-defense, to withdraw from an operation, or from a case, at once, if our advice is not followed. To bear the responsibility, we must be absolute masters. —*New York Med. Jour.*

OBSTETRICS AND GYNECOLOGY.

Rules for Midwives.—The following rules, which are in force in the Clifton Dispensary, Bristol, England, have been sent for publication by Mr. L. M. Griffiths, who thinks they may be of use in like institutions elsewhere:

1. Every midwife must possess a bag which she must take with her whenever she is called to a woman in labor.

2. The bag must contain, besides other necessities, the following:

A box of antiseptic powders each consisting of ten grains of corrosive sublimate and a grain of cochineal. The box will be labeled The Antiseptic Powders—Poison.

A bottle of glycerin, with every two ounces of which a grain of corrosive sublimate has been mixed. The bottle will be labeled The Antiseptic Lubricant—Poison.

A nailbrush and a piece of soap.

A packet of sanitary wood wool.

A box of twenty-grain iodoform pessaries.

A copy of these rules.

A book of forms for reporting cases to the resident medical officer.

3. The midwife while she is in attendance on a patient, must wear a clean light-colored cotton dress and a clean white apron.

4. The midwife's nails must be kept short.

5. Before making a vaginal examination the midwife must prepare an antiseptic solution in the following way: One of the antiseptic powders is to be placed in a clean basin and a pint of hot water is to be poured upon it and stirred with the finger until the powder is completely dissolved. The solution will be of the strength of one part in 1,000.

6. Before making an examination or touching the external parts the midwife must wash her hands and wrists with soap and hot water, cleaning her nails with the nailbrush. She must next rinse them free from soap. Then she must hold her hands for a full minute in the antiseptic solution which has been prepared. The hands must not be wiped before making the examination, but the fingers must be anointed with the antiseptic lubricant. No substitute, such as lard or vaseline, is to be used at any time for anointing the fingers.

7. Having made the examination, she should again wash her hands in soap and water.

8. After labor the external parts are to be washed with clean wool which has been soaked in the antiseptic solution.

9. After a case of tedious labor an iodoform pessary is to be inserted in the vagina. A similar pessary is to be used night and morning for the first three days, and once in twenty-four hours for the next six days.

10. The services of the resident medical officer shall be obtained if the presentation is obscure or unnatural;

if the labor is unduly prolonged; if the discharge is excessive or becomes offensive; or if the woman does not appear to be progressing favorably.

11. The midwife must wipe the child's eyelids with a clean napkin as soon as the head is born. This should be done if possible before the eyes have been opened. When washing the child the midwife is to separate the lids and squeeze over the eyes a piece of wool that has been soaked in the antiseptic solution.

12. Ergot is in no case to be given before the birth of the child.

13. Within twelve hours after any confinement the midwife must report the case to the resident medical officer on the form provided for the purpose.

14. The midwife shall visit the patient daily for the first three days after confinement, not reckoning the day of confinement as one.

15. If the midwife has been brought into contact with a case of puerperal fever or any other illness supposed to be infectious, she must immediately report the fact to the resident medical officer, and she is not to proceed to any case of labor or visit any of her patients until she has received his permission to do so. Neglect of this rule will mean instant dismissal.

NOTES AND ITEMS

The American Medical Publishers' Association will hold its third annual meeting in Atlanta, Ga., on May 4. The Secretary is Dr. C. W. Fassett, of St. Joseph, Mo.

The Nebraska State Medical Society.—The meeting of the Nebraska State Medical Society will be held in the Federal Building at Lincoln, Nebraska, on May 19, 20 and 21, beginning Tuesday afternoon of May 19. The titles of all papers to be read should be sent to the Secretary. The programme will be issued about May 1. This Lincoln meeting promises, from present indications, to be a large one. Prospective new members should write to Secretary George Wilkinson, Karbach Building, Omaha, Neb., for application blanks.

Ipecacuanha in the Treatment of Bee Stings.—The *Indian Medical Gazette* for February says that Dr. George King, of the Calcutta Botanical Gardens, was recently attacked by a swarm of bees and was severely stung on the hands, the head, the face, and the neck, and no fewer than a hundred and fifty stings were taken from his neck. Fortunately, Dr. King had some ipecacuanha powder with him, which he immediately had made into a paste and smeared over the head, the face, and the neck. The effect of the paste was most marked, as it prevented, to a great extent, the swelling and pain which ordinarily follow the bee's sting.—*N. Y. Med. Jour.*

Well and Happy When She Had Enough.

—We once knew a woman, an inmate of a county infirmary, who attained the ripe age of one hundred and six years, who had always been an inveterate user of tobacco, which owing to her poverty was a luxury not easily obtained. To economize in its use, she first chewed the plug and dried the quids, from which she made a tea and drank of it freely. Then the residue was carefully redried for consumption in her T. D. pipe. The old lady proudly affirmed that she had never been ill.—*Cleveland Medical Gazette.*

A Remedy for Black Eye.—There is nothing to compare with the tincture or strong infusion of capsicum annuum mixed with an equal bulk of mucilage or gum arabic with the addition of a few drops of glycerin. This should be painted over the bruised surface with a camel's-hair pencil and allowed to dry on, a second or third coating being applied as soon as the first is dry. If this is done as soon as the injury is inflicted, it will invariably prevent blackening of the bruised tissue. The same remedy has no equal in rheumatic sore or stiff neck.—*Medical Progress.*

Professor A. Jacobi's Therapeutics of Infancy and Childhood.—In Prof. A. Jacobi's "Therapeutics of Infancy and Childhood," 1896, will be found the so-called anti-tubercular treatment in which the author corroborates his remarks in the *International Medical Magazine*, 1882, and "Transactions of the American Climatological Association," 1892, and quotes:

"No one treatment of all forms of tuberculosis ever satisfied me to the same degree as has that with guaiacol. If the taste be objectionable, the carbonate of guaiacol, an almost tasteless powder, may be substituted in three or four daily doses of one to three or four grains each. Both of these preparations, particularly the latter (guaiacol carbonate) may be combined with other drugs according to indications."

A Wonderful Horse.—Dr. Paltauf, of Vienna, has a horse of which he is very proud (*Med. Rec.*). The causes of pride in horseflesh are usually the superb beauty of the animal, his record in the matter of speed, his ancestry, his temper, his style, his color, or his price. But none of these things have inspired the enthusiasm of the Vienna physician. His horse has beaten the record simply in the production of antitoxin units. The animal is a six year-old gelding and the strength of his serum is five hundred antitoxin units. In the last year this noble animal has produced six quarts of toxin, and, while others have saved their hundreds, this horse has saved its thousands of lives. In the civilization of the future, and perhaps in the annual New York horse show of the future, the element of antitoxin may yet be taken into consideration in testing the qualities of the horse. We should respectfully submit to those gentlemen who run future horse shows that a collection of animals

labelled with their toxin-bearing capacity would form a most interesting addition to the parade of fair women which is put on view on this occasion.

Orificial Surgery in Germany.—The *Centralblatt f. innere Medizin* thus scarifies that absurd reflex "philosophy" which has found expression in "orificial surgery." How a cough is cured in Kansas may be of interest to all, even if the cure be not imitated. The writer of the paper, while passing his vacation at Manitou, the Mecca of America, was consulted by a vigorous, blue eyed, light-haired Swedish girl of twenty-six summers on account of a cough and various nervous disturbances. The cure was as follows: First, the lady must reside in the same house with the physician. Then came phosphate of iron, chloride of potash, galvanization of the body, faradization and dilatation of the rectum. Then followed galvanization of the solar plexus and of both vagi, nasal sprays, verbascum oil in the ears, and finally excision of the hymen and further dilatations and faradizations as already described, together with regulation of the diet and inhalations of oxygen, and the cure burst in upon this treatment like an avalanche in the mountains of the moon or an earthquake in the Sierra Nevada. A poem by an unnamed writer closes this medical history.—*Medical Standard*.

Graduating Exercises of the Marion Sims Medical College.—Pilgrim Congregational Church, Washington and Ewing Avenues, was far too small to accommodate the vast assemblage which gathered there April 2, on the occasion of the commencement exercises of the Marion-Sims College of Medicine. Long before 8 o'clock, the hour set for beginning, every seat in the edifice was filled, and hundreds were standing in the aisles and corners. Finally, there was not even standing room, and many persons were compelled to return home after a determined, but unsuccessful, attempt to gain admittance.

The choir loft was reserved for the members of the faculty and the instructors in the College. In the pulpit were massed the flowers, which were afterwards distributed among the members of the graduating class, and their beauty and fragrance did much to make the exercises the great success that they were.

Dr. H. M. Starkloff delivered the valedictory, following it with an address upon the subject "The Lack of Physical Exercise Which Characterizes the Present Age." The delivery of diplomas was made by the Dean, Dr. Y. H. Bond. Dr. Charles A. L. Reed, of Cincinnati, O., delivered the prizes and honors in an appropriate address.

At the close of the exercises the graduates and their guests repaired to the St. Nicholas Hotel, where an enjoyable banquet was served. Drs. I. N. Love and R. C. Atkinson officiated as toastmasters, and during the course of the evening appropriate subjects were responded to by most members of the Faculty and some of the guests.

PUBLISHER'S DEPARTMENT.

SURGICAL INSTRUMENTS AND PHYSICIANS' SUPPLIES.—We call the attention of our readers to the advertisement of Feick Brothers, Pittsburg, Pa., who inform us that they will send to the readers of the REVIEW a catalogue of the latest Surgical Instruments made. This is their third edition and contains 600 pages, fully illustrated, and is a valuable and useful book to the medical profession.

ABSCCESS.—Stearns' Wine of Cod Liver Oil with Peptonate of Iron should be used where a large quantity of pus is being poured out, draining the system, also in scrofulous cases and in Hectic. Calcium Phosphate or sodium auro-terchloride may be employed in conjunction as tonics, and in low cases the sulphide of potassium, sodium, ammonium and calcium are indicated.

TO REMOVE FROM THE HANDS THE ODOR ACQUIRED IN MAKING A POST-MORTEM.—Every physician who has had occasion to make a post-mortem examination is familiar with the peculiar cadaveric odor which clings so tenaciously to the hands. Those who have treated uterine cancer know the sickening odor of the vaginal discharges and how impossible it is to wash it from the hands. In such cases, the hands should be washed thoroughly with warm water and soap, and then Listerine applied full strength. If Listerine had no other use than this it would be of great value, but beside this, it is of inestimable value as an antiseptic, either internally or externally.—*Massachusetts Medical Journal*.

"As AN instance, we have in mind a patient who was stricken down a few months since with typhoid pneumonia or typhoid malarial fever. For many days it was doubtful whether life or death would gain the mastery over his body. The ordinary household diets—chicken and mutton broth, beef-tea, etc.—usually considered of easy digestion, and whether true or not, highly nutritious, had become of no avail, because the stomach had grown too weak and faint to either digest or retain them. In the emergency a prepared food known as Imperial Granum was tried, which proved successful; so much so that in addition to his faith in the skill of his physician in otherwise handling his case, the patient attributes the preservation of his life to Imperial Granum, on which practically alone he existed for several weeks."—*St. Louis Medical Brief*.

RENDER THE INTESTINAL CANAL ANTISEPTIC.—The *Materia Medica* gives at least one safe intestinal antiseptic. It is Salol. Professor Hare, in the last edition of his *Practical Therapeutics*, says that Salol "renders the intestinal canal antiseptic, and so removes the cause of the disorder, instead of locking the putrid material in the bowel, as does opium." He regards Salol as "one of the most valued drugs in the treatment of intestinal affections." Have we a substitute for opium for the relief of pain? Here comes in the American coal-tar products the first of which, for the relief of pain, stands Antikamnia. Therefore, we conclude that to remove the cause, to render the intestinal canal antiseptic, we have an invaluable remedy in Salol; while to remove accompanying pain, to quiet the nervous system, and to reduce any fever which may be present, we have a remedy equally efficacious in Antikamnia; "an ideal combination for the treatment of this large class of diseases, and we may especially cite Typhoid Fever." These two drugs are put up in tablet form, called "Antikamnia and Salol Tablets," each tablet containing two and one-half grains of Antikamnia and two and one-half grains of Salol.

MEDICAL REVIEW,

A WEEKLY JOURNAL OF MEDICINE AND SURGERY.

VOL. XXXIII.

ST. LOUIS, APRIL 18, 1896.

NO. 16.

ORIGINAL ARTICLES

Treatment of Renal and Vesical Disorders.

BY D. S. MADDOX, M.D., MARION, OHIO,

U. S. Examining Surgeon.

Among the many human ills which tax the skill and patience of the physician, none are more conspicuous than derangements of the urinary system. There are comparatively few individuals who reach advanced, or mature life, who have not, at some time or another, experienced more or less trouble on the part of the kidneys or bladder. One of the most frequent, and at the same time most neglected of the renal disorders is lithiasis; yet lithiasis was known and described in remote antiquity. Hippocrates speaks of the stagnation of the urine as a cause of gravel. Galen has carefully described renal lithiasis; he speaks of nephritic colic, and recommends two kinds of treatment, abundant ingestion of water, and blood letting. Modern authorities divide lithiasis into three varieties, according to the chemical composition of the solid particles contained in the urine. Thus, we have to consider uric, phosphatic and oxalic gravel. Uric acid lithiasis—by far the most common form—is the result of a dietary too rich in albuminoid substances, whenever such dietary is in excess of the combustion of the economy. While uric acid gravel is ordinarily the result of disturbed nutritive processes, oxalic gravel is due to the direct ingestion of vegetable foods containing oxalic acid. Bird, Garrod, and others have maintained the existence of an oxalic diathesis; but whether or not such a diathesis exists can be of little practical importance to the clinician; he, in either case, has a condition, and not a theory, to meet. Lastly, we have to consider the phosphatic, or calcareous gravel, characterized by the presence of phosphates of lime in the urine. These salts are, however, seldom found in the form of calculi; on account of the temperature of the urine they are held in solution, and are not precipitated until the urine cools, after being voided. The scope of this article will only permit of a mere allusion to the disastrous complications of lithiasis—

nephritic colic, renal hemorrhage, pyelitis, etc. These late and dangerous complications may, in the majority of instances, be entirely averted, if the lithemic condition be early recognized, and prompt treatment instituted.

The bladder is the seat of many functional and organic changes, some of them secondary to renal disorders, as calculous disease, which usually originates in the kidney; cystitis also, is not infrequently due to the extension of a pyelitis along the ureter. But by far the most frequent vesical disorders we meet with in general practice, are catarrh and vesical irritation. Catarrh, or cystorrhea, is most often met with in advanced age, those of a gouty or rheumatic habit being, it is said, especially prone to it. Simple vesical irritability on the other hand, is not peculiar to any period of life, habit or occupation. In many cases it is no doubt a neurosis, in others it can be traced to inflammation, or some mechanical obstruction. The treatment of these renal and vesical disorders is medicinal and dietetic. The drugs most usually employed are alkalies, balsams and the vegetable diuretics. But not, however, until lithiated hydrangea was introduced to the profession, did we have a remedy which would so fully meet the indications in these affections. On referring to the published formula, we find that this remedy is composed of benzo salicylate of lithia, a powerful solvent and antilithic, and hydrangea, a plant whose diuretic and alterative properties have been well and favorably known for many years. These two drugs when scientifically combined in the proper proportions can not help but constitute an ideal remedy in diseases of the kidney and bladder. I beg to cite a few cases in which lithiated hydrangea was used to advantage:

F. W., aged 31; clerk. For several months had had occasional attacks of painful and burning micturition. These attacks would last for several days. Urine always high colored, and contained a good deal of brick red sediment; acid reaction, specific gravity 1028. Microscopic examination of the sediment revealed uric acid crystals, which at once made clear the diagnosis. Patient had had no attacks of renal colic, but on one or two occasions had a feeling of soreness and heaviness in the lumbar region. Lithiated hydrangea was ordered in teaspoonful doses four times daily; and a tendency to constipation overcome by pills of aloin, strychnia and belladonna. Attention to diet, and out-door exercise were also enjoined. This treatment was contin-

ued for nearly six weeks, at the end of which time repeated urinalyses failed to detect any abnormal matter in the renal secretion, and there were no more painful or burning sensations during micturition.

G. T., aged 43; farmer. Had experienced two attacks of renal colic within three months. No calculi large enough to be recognized by the naked eye had been found in the urine; but the symptoms were unequivocal, and examination of the brick-dust urinary sediment confirmed the diagnosis of uric lithiasis; there was also present a small quantity of muco-pus, indicating a beginning pyelitis. The patient was placed on lithiated hydrangea, two teaspoonfuls three times a day, for first two weeks—after that, teaspoonful doses. He was also directed to drink copiously of a diuretic mineral water, obtained from a local spring. At the end of two months all indications of lithiasis and pyelitis had subsided. It is now seven months since he had the last attack of renal colic.

Mrs. B. S., aged 65. For years the subject of chronic rheumatism, was taken with a severe attack of vesical irritation. She was obliged to urinate every few minutes, micturition being attended with tenesmus, pain and a sense of scalding. The urine was acid, high colored, and contained mucus. The symptoms had continued two days when I first saw her. Buchu and potash had been given without benefit. I immediately opened the bowels with a full dose of solution of citrate of magnesia, and ordered lithiated hydrangea in teaspoonful doses every three hours. Improvement began at once, and all symptoms of irritability ceased in three days.

W. H., aged 54; storekeeper. For nearly five years had been troubled with cystorrhoea, or vesical catarrh. He had to void his urine often, especially at night; it was small in quantity, and heavily charged with pus and mucus, with occasional traces of blood. Ammoniacal changes had also given the urine a very offensive odor. Pain, of a dull, heavy character, was almost always present about the pubes, and there was sometimes burning and tenesmus. The general health was much affected; patient was emaciated, weak and enemic. He had been under the care of several physicians, but had received no permanent benefit. Treatment in this case was lithiated hydrangea, conjoined with the following:

R. Potassii citratis, ... ʒiv.
Infus. scoparius, ... ʒiv.

M. Sig.: Two teaspoonfuls three times a day, one half hour before meals.

At the end of two weeks there was a decided improvement. The potash and scoparius mixture was discontinued, and the lithiated hydrangea continued for a month longer, when the patient was dismissed, cured.

I could recall other cases where this remedy has been used with signal success, but time and space forbid. The above reported cases give ample evidence of the wide range of usefulness of this valuable antilithic agent.

MEDICAL REVIEW.

EDITORIALS

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PUBLISHED UNDER THE AUSPICES OF THE
MEDICAL REVIEW ASSOCIATION

BY O. H. DREYER.

YEARLY SUBSCRIPTION, \$3.50. SINGLE COPIES, 10 Cents.

TO CONTRIBUTORS AND CORRESPONDENTS.

All letters whether intended for publication or not must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of the meetings of their respective societies, and of officers elected.

Members of the profession who send us information of matters of general interest to our readers will be considered as doing them and us a favor, and we shall take pleasure in inserting the substance of such communications.

Communications, Medical Books for review, and all letters containing business communications or referring to the publication, subscription, or advertising department of the REVIEW, must be addressed to O. H. DREYER, Publisher 112 N. 4th Street, St. Louis.

Entered at the St. Louis Postoffice as Second-Class Matter.

Meeting of the American Medical Association.

The meeting of the American Medical Association at Atlanta is looked forward to with the usual interest by the local profession. The scientific success of the meeting seems assured and the social features will be equally well attended to by the Committee of Arrangements. Georgia is well known for its unbounded hospitality and it is reported that a barbecue will be given to the members of the Association which will outrival the memorable clambake of the Newport meeting. The climate of Atlanta is exceedingly pleasant, the heat being rarely great on account of the elevation of the city. Whosoever is not detained by more urgent duties at home should make it a point to attend the Atlanta meeting.

All railroads except those west of the Mississippi River have granted the excursion rate of one fare and one third. All who wish to avail themselves of the reduced rates must pay full fare to Atlanta. When starting, take the certificate of the agent at the place. This

certificate, when signed at Atlanta, enables the owner to buy a return ticket at one-third fare.

The Twelfth International Medical Congress.

At all international medical congresses the fact that papers were read in various languages has been looked upon as a great annoyance and obstacle to the complete success of the scientific meetings and the feasibility of restricting the reading of papers to one language has been frequently discussed at medical meetings and in medical journals. Although at the next International Congress, which is to take place August 19-26, 1897, at Moscow, the official language will be French, the speakers at the general meetings are allowed to make use of their native languages, while in the meetings of the different Sections the French, German and Russian languages are the only ones mentioned as admissible in the reading of papers. No mention is made in the regulations of the Congress of either the English or the Italian languages. Such a decision on the part of the organizers of the Twelfth Congress appears, at first sight, exceedingly partial and unjust, considering the many important contributions to medical literature by English and Italian speaking nations and the advanced state of medical science in their respective countries. The new decision of the organizers of the Congress appears to be based, however, on a very sensible motive which the organization committee has found advisable to explain in a communication to the *Deutsche Medizinische Wochenschrift*.

The medical faculty of the University of Moscow which has been appointed by the Russian Government to take the first steps in the organization of the Congress could not, as far as possible, ignore the wish expressed by the medical press and consequently acknowledged the French language, which is used in all diplomatic transactions and official relations between European countries, as the official language of the country. The Faculty, although fervently advocating the principle of unity of language at medical congresses, found it impossible to completely establish this principle at the next Congress and claims to have good reasons for admitting the Russian language besides the official French. Russian physicians are expected, however, to avoid, as much as possible, the use of their own language to which act of politeness they will, no doubt, most willingly submit. But, in order to make it easier for the Russian physicians to avoid the use of their native language, it was found necessary to allow the members of the Congress to make use of the German language also; for many Russian physicians have studied at German universities, make use of German text-books and are more familiar with the German than the French language. The organization committee admits that it is conscious of deviating from the coveted principle of unity of language and acknowledges the desirability of applying this principle to future medical congresses.

Serum Therapy.

Most original workers and investigators in the large field of serum therapy are exceedingly cautious with regard to placing expectations upon possible therapeutic effects in the treatment of infectious diseases before sufficient clinical proof has been gathered justifying such expectations. The fact that diphtheria antitoxin is a specific in the truest sense of the word does not justify the supposition that antitoxins of other diseases will be equally effective, at least not with the present means of diagnosis. If the expression of an opinion, based upon analogy, be justified at the present stage of development of serum therapy, it would be reasonable to suppose that in all acute infections in which the diagnosis can be made at an early stage of the disease, an antitoxin will probably be equally effective as that of diphtheria. In this disease the efficiency of the antitoxin depending, as is well known, upon an early application of the remedy. It is not impossible, however, that in the future bacteriology may enable the physician to make a diagnosis in some diseases at a sufficiently early stage that an antitoxin may have a better chance for usefulness as is the case at present. In a disease, for instance, like typhoid fever, the infection is usually considerably advanced before even the patients begin to complain. It is no wonder, therefore, that the use of antitoxin in typhoid fever has so far furnished rather indifferent results. With reference to infectious diseases running a chronic course, skepticism is even more justified and statements should be made with the greatest reserve and caution, lest they be looked upon as unreliable and as emanating from undue enthusiasm and self-deception, thereby harming the cause of serum therapy in instances where it would appear more reasonable to expect successful results. The work of the most reliable investigators is therefore going on quietly and unostentatiously, without much noise, pretention or publicity, as it behooves the scientific investigator.

The successes in serum therapy, excluding diphtheria, tetanus and streptococcus infection, are of an exceedingly equivocal nature and their standard of merit is so far very uncertain; but exact scientific investigations are appreciated everywhere, even if they happen to result in therapeutic failures.

A New Remedy for Consumption.

At the recent Congress for Internal Medicine, which took place at Wiesbaden, April 8-11, Dr. Erich Langheld claimed to have discovered a new remedy for tuberculosis which he has named Antimicrobin. The remedy consists principally of ozone and codliver oil and is administered by hypodermic injection. It has been used in ninety cases of tuberculosis in the Moabit Hospital, Berlin, all of which got well. Professors Gerhardt and Senator are said to have corroborated these statements.

Let us hope that this news, which has been cabled

from Berlin, will be verified, although it is to be expected that the ninety cases referred to have been carefully selected. The fact that Gerhardt and Senator have endorsed the treatment, as the cablegram states, certainly justifies the belief that, unlike many other advocated remedies for consumption, the new treatment has some merits.

According to the author the main difficulty encountered in the medicinal use of ozone consists in keeping it pure and readily applicable as a therapeutic agent. This has been, according to Langheld, a puzzling difficulty in the investigations of the last five years which eventually has been overcome by the author.

Death Attributed to Diphtheria Antitoxin.

From Berlin comes the news that a child of Professor Langerhans, twenty-one months of age, died in consequence of a prophylactic injection of diphtheria antitoxin. A servant of the family had a throat affection which was supposed to be diphtheria and the child received the antitoxin as a protective measure. The post-mortem is said to have revealed an acute nephritis and upon analysis of the antitoxin too large a quantity of carbolic acid, for preservation purposes, is reported to have been detected. The report is rather defective and the particulars of the case will have to be made known before a definite opinion may be expressed. It would appear that where large quantities of diphtheria antitoxin are gathered, the wonted precautions ought to preclude the possibility of an untrustworthy, or impure serum, and the source of manufacture, and investigation of as well as a minute examination into the quality of all serum prepared at the same time with that containing the presumptive deadly dose, will have to be instituted before absolute conclusions of any value can be deducted from the accident. The very nature of antitoxins demands, as we have frequently pointed out, a most scrupulous care in the process of manufacture, a thorough mastery of technique, as well as a careful and conscientious supervision of the work by responsible parties. As all diphtheria antitoxins manufactured in Germany are placed under government control it is to be expected that a thorough and exhaustive investigation of the matter will be instituted.

Disagreement in the Management of the Baptist Sanitarium.

The columns of the daily papers of this city have recently been replete with discussions of a disagreement between the officers of the Baptist Sanitarium representing the business affairs and the management of medical matters in the Institution. It appears that the business manager found it advisable to encourage the use of a patented opium cure in the Institution and even used his influence in advertising the wonderful nostrum. As a natural consequence of this state of affairs the surgeon

in charge of the Sanitarium, Dr. Mayfield, resigned his position as chief surgeon, giving as his motive the unethical procedure of the business managers.

It is to be hoped that, as a consequence of the disruption, quack methods will be banished from the Institution in order to preserve the stainless character of its medical officers as well as for its general interest and welfare. No self-respecting physician can allow himself to be connected with a hospital where quackery is openly practiced, even if such quackery should have the sanction of religious enthusiasts who, although they may have good judgment in matters of a purely business nature, are usually entirely devoid of judgment in drawing the line between a conscientious scientific physician and his honest endeavors and a superficial and medically ignorant, although enthusiastic and well-meaning therapeutic dilettant.

TRANSLATIONS.

BY EDGAR THOMPSON, A. M., M. D.

Tubal Pregnancy after Hysterectomy.—

Dr. Wendler reports a very unique case of tubal fecundation after an ablation of the uterus (*L'Union Med.*).

The case was that of a woman who had been hysterectomized in 1885. After the operation the condition of the patient became very good; menstruation promptly ceased but at each returning monthly period she experienced a considerable amount of malaise, attributed to the enforced suppression.

When the case was brought to the notice of M. Wendler (seven years after the hysterectomy) it had taken a peculiar turn. The monthly return of lassitude and malaise had entirely ceased for eight months. But other symptoms had supervened viz., violent pains of the heart and the occurrence of several abundant hemorrhages, the blood escaping through the vagina.

On physical examination the vagina was found to be filled with large blood clots; bimanual palpation was painful. The uterus was entirely absent and the vagina terminated in a small cupola like cavity. On the right side, at the end of vagina, was a small cystic tumor with a short pedicle. Further exploration disclosed the presence, in the right adnexa of a soft tumor about the size of a hen's egg.

Examination with the speculum showed the small tumor, lying within the vagina, to be an infundibular opening in the vagina. From this aperture blood constantly drained. When a compression forceps was placed on the pedicle the hemorrhage ceased. The diagnosis of tubal pregnancy was made. The embryo had probably lodged in a small portion of the horn of the uterus, which remained attached to the Fallopian tube. As development occurred the membranes were pushed into the vagina, and the hemorrhage was produced by the detachment of the membranes.

The small volume of the tumor and the absence of any peritoneal rupture led the author to operate through the vagina. The intra-uterine cyst was cut away, and the small pocket was curetted, which process brought away the rest of the membranes which showed a well developed villous lining. The curetted sac was packed with iodoform gauze and all symptoms promptly ceased.

Fractures of the Clavicle.—The treatment of fractures of the clavicle is comprised in three principle methods (*Jour. des Prac. et Rev. Inter.*):

1. Absolute immobilization which has been entirely abandoned, not only because it is not necessary, but also on account of the great muscular atrophy in causes.
2. The relative immobilization with massage which is admissible in all cases.

The author lays great importance to the use of local massage in cases of fractured clavicle and finds the movements very agreeable to patient and productive of good capillary circulation and consequent good nutrition at the site of fracture. The massage should be applied at intervals during the first day. Then an appropriate splint is to be applied.

It is important to interdict any muscular movement of the forearm and hand for the first eight days. It is not necessary to place patient in bed.

3. Oseous suture. The following conditions are suggested as being indications for surgical interference and bone suture:

- (a) When there are serious complications depending on the displacement of the fragments, as compression, contusion or lacerations of nerves or vessels.
- (b) To obviate the many complications and deformities of an exuberant callous. The callous sometimes becomes very large, when the patient has, too early, returned to work, etc.
- (c) When there is great displacement by one fragment overriding the other and the shortening of the bone will be so great as to seriously circumscribe the movements and diminish the strength of the arms.
- (d) When one fragment has been forcibly depressed and can not be elevated and maintained in the proper position.
- (e) When the periosteum has been extensively contused which will tend to cause a delayed and faulty union.
- (f) When the fracture is compound.

Surgeon's "X" Rays Operating Table.—According to a dispatch to the *Globe Democrat* Edison has made public a plan for a surgeon's operating table. The table has a mercury vacuum pump for exhausting the vacuum tube, which is placed beneath the table. The table is so constructed that the top moves on rollers in a groove, so that the surgeon can easily place any part of the patient directly over the "X" ray source and obtain a shadow of his skeleton.

MEDICAL SOCIETIES

Western Ophthalmological, Otological and Laryngological Society.

The first annual meeting of the Western Society of Eye, Ear, Throat and Nose Surgeons was called to order at the Midland Hotel, Kansas City, April 9, 1896, by Dr. J. H. Thompson, President of the Kansas City Academy of Medicine. The meeting was largely attended for the purpose of forming a permanent association. This was effected and Dr. Adolf Alt, of St. Louis, was elected President, and Dr. Hal Foster, of Kansas City, Secretary.

The address of welcome was delivered by Dr. C. Lester Hall, President of the Missouri State Medical Society, and it was responded to on the part of the visitors by Dr. Gill, of Pittsburg, Kan. During the forenoon papers were read by Dr. Alt, Dr. C. Barok, both of St. Louis, and Dr. B. E. Fryer, of Kansas City. The discussion on these papers filled the balance of the morning session.

In the afternoon, after hearing reports of committees, papers were read by Drs. W. C. Pipino, Des Moines; William Scheppegegrell, New Orleans; W. L. Dayton, Lincoln, Neb.; and in the evening by Drs. C. P. Ambler, Asheville, N. C.; W. W. Bulette, Pueblo, Col., and W. F. Strangways, Flint, Mich. All were given the closest attention, and were freely discussed by the assembly. The organization of the Society was also completed by the election of the following additional officers: First Vice-President, Dr. B. E. Fryer, Kansas City; Second Vice President, Dr. J. W. Martindale, Minneapolis, Minn.; Treasurer, Dr. W. L. Dayton, Lincoln, Neb.

The next meeting of the Society will be held in St. Louis on the second Thursday and Friday of April, 1897.

The second day's sessions were devoted entirely to papers and discussions and the programs for them were as follows:

MORNING SESSION.—"Subjective Sensations," Dr. W. E. McVey, Topeka, Kan.; "Which Operation for Senile Cataract Should the Beginner Select?" Dr. J. H. Thompson, Kansas City; "The Critical Examination of Deaf Mutes," S. T. Walker, Jacksonville, Ill., Superintendent of Illinois State Institution of the Deaf and Dumb; "Adenoid Vegetations of the Vault of the Pharynx, with Report of Cases," Dr. C. E. Clark, Kansas City; "Errors in the Literature on Javal's Ophthalmometer for the Measure of Astigmatism," Dr. G. W. Grove, Kansas City.

AFTERNOON SESSION, 2:00 P.M.—"The Present Status of the Physiological Anatomy of Vocalization and Phonation," Dr. Edward H. Schaefer, Kansas City, Mo.; "Eye Affections as Related to Nasal Diseases," Dr. George E. Bellows, Kansas City, Mo.; "Organization a

Protecting Factor for the Up-to-Date Physician," Dr. J. D. C. Holt, Elmwood, Ill.; "Goitre," Dr. G. J. Cullen, Cincinnati, Ohio; "The Relation of Opticians to Ophthalmology," Dr. F. D. Green, Pueblo, Cal.

Among those present from out of the city were Drs. Adolf Alt and C. Barck, St. Louis; W. C. Scheppege, New Orleans, La.; T. C. Evans, Louisville, Ky.; F. D. Green, Pueblo, Col.; E. B. Farnham, Milwaukee, Wis.; J. W. Martindale, Minneapolis, Minn.; W. C. Pipino, Des Moines, Iowa; C. P. Ambler, Asheville, N. C.; W. L. Dayton, Lincoln, Neb.; Albert Leary, Denver; W. F. Strongways, Flint, Mich.; W. C. McVey, Topeka; J. W. Grove, Eureka, Kan.; H. L. Gill, Pittsburg, Kan.; J. C. Smith, St. Louis; S. T. Walker, Jacksonville, Ill.; H. C. Hammond, Olathe, Kan.; H. W. Woodruff, Joliet, Ill.; R. S. McGee, J. A. Wall and J. E. Minney, Topeka, Kan.; B. P. Anderson, Colorado Springs, Col.; Milton Green, Grand Rapids, Mich.

At noon the specialists were given a lunch by Parke, Davis & Co., the well-known pharmaceutical manufacturers, of Detroit, Mich., at the Company's Branch House, opposite the Coates Hotel.

National Confederation of State Medical Examining and Licensing Boards.

The sixth annual meeting of this organization will be held in Room No. 1, Hotel Aragon, Atlanta, Ga. (which offers reduced rates), Monday, May 4, 1896, at 10 o'clock A.M. The following program will be carried out, namely:

1. Introductory remarks by the vice-president.
2. Report of the committee on revision of the constitution and by-laws.
3. Discussion and action thereon.
4. Report of the secretary.
5. Annual address of the president.
6. Address, by James Russell Parsons, Jr., Esq., Albany, Director of Examinations, University of the State of New York. Preliminary Education, Training and Practice in New York.
7. The Limitations of the Standard of Modern Educational Requirements, as Determined by State Medical Examining Boards, by Joseph M. Mathews, M.D., Louisville, Ky.
8. Paper, by William S. Foster, M.D., Pittsburg, Pa. (Subject to be announced).
9. Some obstacles to an Inter-State recognition of a State license to practice Medicine, with suggestions for their removal, by Charles McIntire, M.D., Easton, Pa.
10. Miscellaneous business.
11. Election of officers.

The objects of the Confederation, though purely of an advisory nature, are to discuss questions that pertain to State licensure in Medicine, with a view to a comparison and improvement of methods, a collection and dissemination of information on the subject, and to consider any and all propositions that have for their purpose the advancement of the standard of Medical Education in the United States.

The officers of the Confederation, therefore, beg to extend a cordial invitation to members of the State Examining Boards, and all ex-members of State Boards, and especially to every physician and educator who is friendly to the objects sought, to attend the meeting and participate in the proceedings.

By order of the Executive Council.

B. M. GRIFFITH, M.D., Secretary.

ABSTRACTS

MEDICINE.

On Mechanical Support of the Lung in Phthisis. — The suggestion to strap the chest in phthisis is invariably met with the objection that one of the objects of treatment in that disease is to expand the chest and so call into play portions of lung which in conditions of subacute health take little or no share in the respiratory process. This objection does not recognize the change in the mechanical conditions of respiration produced by disease of the lung substance. In health, the respiratory capacity of the lung is commensurate with the semi-circumference of the thorax. The diseased lung may be regarded as decreased in bulk, so far as function is concerned, by the amount of lung tissue involved, and it follows that the best mechanical conditions of respiration will be secured by reducing the thoracic cavity in proportion to the reduced bulk of lung. Natural processes of repair tend to secure these conditions, but only lead to complete cicatrization when the disease is of very limited extent. We then find, clinically, a flattening of the chest wall, dislocation of adjacent organs or hypertrophy of the opposite lung, and anatomically a cicatrix, bands of fibrous tissue, a puckered lung surface and thickened pleura—all evidences of a natural effort to fill up space originally occupied by healthy active lung tissue. Natural processes are unable to overcome the mechanical obstacles to complete cicatrization when the disease involves more than a small maximum of lung tissue. Bands of cicatricial tissue radiate from the focus of disease to surrounding parts and, contracting, draw inwards healthy lung to occupy the diseased area and the chest wall closes in and accommodates itself to the diminished bulk of lung. Auxilliary processes are pleuritic thickening and emphysematous dilatation of the alveoli about the diseased area. All these processes are slow and uncertain. The cicatricial traction is itself a source of chronic irritation. The neighborhood of the fibrous bands and the emphysematous zones are *loci resistentiae minoris*, and form favorite lines of march for the invading specific element of the disease. The obvious indication then is to aid the natural processes of repair by reducing the thoracic cavity, thereby relieving them of

the work of strenuous, prolonged, and often inefficient cicatricial traction. In so far, then, as the inflammatory element in phthisis is concerned, rest and relaxation of the inflamed tissues seem indicated and essential to the healing process.

Comparative rest of the lung may be secured by keeping the patient at absolute rest day and night, but this system has obvious disadvantages, while it fails to fulfil the local indications of rest and relaxation. The English school aims at developing the latent resources of the lung so as to compensate for the loss of respiratory surface, while placing the patient under conditions inimical to the extension of the specific element of the disease and promoting general nutrition. In extreme cases where this object has been attained, one finds an immense development of the base of the lung with extensive cavitation towards the apex. The cavitation is a constant source of danger, while the hypertrophy does not necessarily secure proportionately increased aeration of blood, because the latter depends on range of movement as well as on effective respiratory area. With permanently increased circumference of the lower thorax there must necessarily be decreased range of movement. Such cases suggest how much better it would have been if the compensatory hypertrophy had extended inwards instead of outwards so as to have invaded and occupied the excavated region.

Two clinical considerations lend weight to the argument in favor of strapping the chest in phthisis, namely, (1) The fact that pleuritic effusion frequently leads to amelioration of the lung affection in phthisis; (2) The fact that during pregnancy the course of phthisis is often temporarily arrested. Both these phenomena produce similar effects on the lung as that produced by strapping.

The above considerations led me to the practice of strapping the chest wall as part of the treatment in phthisis, especially applicable in cases of unilateral disease of the apex. The method I adopt is to apply the anterior end of the strapping over the lower sternum and direct the patient to breathe out while I draw the strapping round the lower thorax and fix it over the vertebral column. I use either strips of strapping or a suitably sized (14 inches by 5 inches) piece of a chamois leather spread with plaster, an appliance which adapts itself well to the chest wall without giving rise to discomfort. The appliance should be kept on till all signs of disease have disappeared and healing is complete. I direct the patient to take a moderate amount of regular exercise and to practice deep breathing. The exercise and deep breathing tend to bring into play the portions of lung not habitually active, while the strapping directs healthy lung to encroach on the diseased region.

The immediate effects of strapping, so far as my experience goes, are decrease of cough and expectoration, followed by cessation of night sweats, gradual fall of temperature, and improvement of general symptoms. The effect on the physical signs is to show a dislocation upwards of the seat of lesion, with gradually decreas-

ing evidences of disease, an encroachment of abdominal organs towards the thoracic cavity, and an absence of falling in of the upper chest wall.

The advantages of strapping may be briefly summarised as follows:

1. In early phthisis (catarrhal stage) to give comparative rest and relaxation to affected lung tissue.
2. In the stage of consolidation, to secure the same results, thereby limiting the risk of extension and to promote elimination of the disease products by improving the circulation in and about the diseased area and to facilitate expectoration.
3. In the stage of cavitation, to promote closing of cavities by directing healthy lung to encroach on the diseased area instead of relying on natural processes of cicatrization.
4. Diminished tendency to hemorrhage by reduced tension on vessels and cicatricial traction on vessel walls.
5. The ultimate object is to obtain a smaller thoracic cavity filled with healthy lung instead of an enlarged thoracic cavity partly filled with diseased lung.

CASE I.—Female, aged 21. History of tuberculous peritonitis. When she came under observation there was marked hectic, extensive breaking down in right infrascapular region, troublesome cough and copious expectoration. When strapped the cough was diminished at once and the temperature gradually fell to subnormal and remained there. The physical signs moved upwards and decreased in area till they finally disappeared. The

thorax was strapped for two winter seasons and patient sent home with strapping on. This spring—five years after original strapping—patient is reported to me as well.

CASE II.—Officer in artillery. Patient had repeated hemoptysis, extensive breaking down in infrascapular region, cough and free expectoration. Was seen in consultation with leading London authority and bad prognosis expressed. Had been refused readmission to the service on one or two occasions by board of medical examiners. The last I heard of this patient he had rejoined his regiment.

CASE III.—Student, aged 19. Had been seen by family practitioner and by consulting physician. There was catarrh of left apex, and bacilli were found in abundance. Strapped for one season, after which his family doctor saw him in consultation with me, and could detect no disease. I advised colonial life instead of Cambridge; however, he was considered well enough to return to Cambridge, and broke down again.

CASE IV.—Female, aged 22. Infrascapular consolidation; cough, expectoration, and night sweats. Strapping was followed by relief of these symptoms. Two months later: Symptoms have all disappeared, and the signs indicate a greatly decreased area of disease.

I wish it to be understood that I do not propose this method as a cure for phthisis, but as an essential element in the treatment of that disease directed against the inflammatory lesion, an element which will greatly

enhance the value of specific and climatic treatment, and without which those methods will be powerless to restore an extensively damaged lung to a condition of mechanical integrity. The latter essential is now habitually left to natural conservative processes which are inadequate to fulfil it when the lesion is extensive, and only does so with difficulty when it is limited.—Stuart Tidey, M D., in *Brit. Med. Jour.*

Sulphanilic Acid in the Treatment of Iodism.—In an abstract of an article from the *Revue generale de clinique et de therapeutique*, which is published in the *Revue internationale de medecine et de chirurgie* for March 10, the writer remarks that among the agents for attenuating if not completely arresting the pathological symptoms which constitute iodism, there is one to which Ehrlich has drawn attention—namely, sulphanilic acid. According to him, the setting free of the iodine of potassium iodide in the organism is effected by the nitrous acid which proceeds from the decomposition of the alkaline nitrites under the influence of carbonic acid. This decomposition is not effected, however, in the presence of sulphanilic acid. At all events, says the writer, the action of sulphanilic acid on potassium iodide may be demonstrated by the following experiment: Ten cubic centimetres, each, of a one in ten solution of potassium iodide, a 1% solution of potassium nitrite, starch water, and distilled water are mixed in a glass beaker. In another glass, 10 cubic centimetres, each, of the same solution of potassium iodide, the nitrite solution, and starch water are mixed with 10 cubic centimetres of a saturated solution of sulphanilic acid. A current of carbonic acid is then passed into each glass, and it will easily be seen, owing to the formation of blue iodide of starch, that the decomposition of the potassium iodide is intense in the first glass, whereas in the second glass this decomposition does not take place.

Whatever may be the interpretation of the result of these two experiments, says the writer, it is easy to see that the sulphanilic acid completely nullifies the decomposing action of the nitrous acid on the alkaline iodides. This fact, he says, led Ehrlich to the belief that the acid would exert an efficacious action in preventing iodism.

With regard to the dose, 90 grains a day may be given without any inconvenience. It should be associated with sodium bicarbonate, as this facilitates the solution of the acid, which is only slightly soluble in water.—*N. Y. Med. Jour.*

The Treatment of Ulcer of the Stomach.—In the *Progres Medicales* for March 7, Dr. Paul Cornet says that the treatment to be carried out in this affection varies according to the presence or absence of hemorrhage. In the first condition absolute rest and immobilization of the stomach are indicated. There should be complete abstinence as regards food, not even ice being allowed, as it is more injurious in its effects

than useful. Occasionally a blister or compresses of ice over the epigastrium give good results. If the hemorrhage persists, a syringeful of the following solution may be injected into the region of the stomach:

Dialyzed extract of ergot, - parts, 30.
Distilled water, - - - " 150.
Carbolic acid, - - - " 3.

No nourishment should be given, although if the patient is weak and the circumstances present some danger, alimentary enemata, such as the following, should be resorted to exclusively:

Milk, - - - - - 5viij.
Salt, - - - - - teaspoonful, 1.
Red wine,
Starch, - aa dessertspoonful, 1.
The yolks of two eggs.

This is heated until it is lukewarm and slowly injected from two to three times a day after an enema of water. Pain should be combated with narcotics, such as codeine hydrochloride or coneine phosphate, in doses of from half to three-quarters of a grain. If the constipation requires treatment, enemata composed of warm water and soap, glycerin, and olive or castor oil may be administered. For from four to seven days after the hemorrhage has occurred the patient must remain in bed on his back, and warm liquid food may be given, such as milk and limewater, or milk with a little tea and coffee, beef tea, bouillon, Koch's peptones, Leube's meat solution, emulsions made from the whites or yolks of eggs, and the waters of Vichy, Vals, Kron-dorf, Lachingen, etc. Cocoa, chocolate, and wine should be avoided.

In the second week after the hemorrhage the treatment may consist in the following: Night and morning the patient should take Carlsbad water with seventy-five or one hundred and fifty grains of artificial or natural Carlsbad salts. Compresses hot enough to redden the skin should be employed constantly. The preceding diet is continued, with nutritive enemata in case of great weakness.

During the third and fourth weeks the patient may be placed on a sofa and allowed to move a little. The use of the Carlsbad water is to be continued for at least six weeks. The diet, in which milk still continues to be the principal article, may include biscuits, cakes, roast veal, meat pie; fish, shellfish, a little weak wine, and acid drinks. After the fourth week the following may be added: Boiled potatoes, spinach, carrots, peas, beets, and red meats well cooked. For a year or more, raw or iced fruits, highly spiced food, and very hot or cold drinks should be avoided.

Concerning the treatment in cases where there is no hemorrhage, the author calls attention to the following methods:

1. According to Anderson and Donkin, for two or three weeks the patient is nourished exclusively by the rectum. It is only in cases of extreme thirst that small pieces of ice, Seltzer water, or iced drinks may be allowed. Ten days later, milk, tea, bouillon, and

red wine may be carefully given by the mouth. Hot compresses should be used over the epigastrium.

2. In light cases, and even in certain dangerous ones, good results may be obtained from the systematic use of silver nitrate. In the beginning a solution of 4 grains of the nitrate in 5 ounces of water may be employed in doses of a dessertspoonful three times a day. The strength of the solution is afterward increased to 5 and then to 6 grains. A proper diet is combined with this treatment. Very frequently a diarrhea is observed with this treatment, but it is not intense and disappears with the continuation of the treatment.

3. Pleiner recommends the bismuth treatment. According to him, the carbonate is preferable to the subnitrate. He prescribes from 150 to 300 grains of bismuth subnitrate suspended in 5 ounces of warm water, which is to be introduced into the stomach through a tube after previous lavage. This solution is at first introduced every day, then every two days, etc., until the inflammatory condition disappears. The indications for this treatment are, according to Pleiner: 1. In ulcer, ulcerous cancer, and hemorrhagic erosions. 2. As a specific agent in gastric and duodenal ulcers. It is contraindicated in affections of the stomach where there is very little secretion.

4. According to Leubuscher, Schfer and Hitzig, morphine is always a prompt and sure agent, and at the same time it diminishes considerably the gastric over-secretion. Boas, however, gives the preference to codeine, particularly the hydrochloride and the phosphate. He prescribes the following formulas:

Codeine,
Extract of belladonna, aa grains, vi.
Bismuth carbonate, - " xlv.
Sugar of milk, - " xl.

Divide into 10 capsules, of which from 1 to 3 a day are to be given.

Codeine phosphate, - grains, xv.
Extract of gentian, q.s.

Make 30 pills, of which from 1 to 3 may be taken daily.—*N. Y. Med. Jour.*

Tussol in the Treatment of Whooping-Cough.—Rothschild (*Dtsch. Med. Woch.*) gives an account of an epidemic of whooping-cough which lasted from October, 1894, until the middle of February, 1895. He treated 61 cases, which he divides into three groups. In the first group, consisting of 16 cases, tussol was not used. The disease lasted from six to ten weeks, and was very severe; two of the children, about six months old, died. The 18 patients of the second group were treated at first with other remedies, and then with tussol. During the first period of their treatment no substantial reduction of the number or the severity of the paroxysms was achieved, but such a reduction occurred after four days' use of tussol. In the 27 patients of the third group the disease was milder; the paroxysms were short, infrequent, and followed by far less weakness than in the two other groups. In very few of these

cases only did the tussol seem to have no effect, and they were cases in which it was doubtful if the remedy was given regularly. The author states it as a certainty that in patients who were treated with tussol from the outset, and took their doses regularly, the duration of the disease was notably shortened and its whole course was much milder. In a few of them it lasted not longer than about a fortnight.—*N. Y. Med. Jour.*

Apolysin as an Antipyretic.—In an article on "The Treatment of Hyperpyrexia in Children, with Some Illustrative Cases," published in the *Med. Record* of February 22, 1896, Dr. Louis Fischer, Associate Professor of Pediatrics, New York School of Clinical Medicine; Attending Physician, Messiah Home for Children and Children's Department, German Poliklinik, sums up his experience with apolysin and formulates the following rule: We may begin to give a child of one year five grains of apolysin, to be repeated every two or three hours, the intervals depending on the urgency for reduction of hyperpyrexia. If there is no distinct effect noticeable from the five grain dose after three doses, it is perfectly safe to give doses of ten grains each every two hours until the fever has been reduced.

R. Apolysin, - - - - gr.lx.
Calomel, - - - - gr.vj.
Sacch. alb., - - - - gr.lx.

M. ft. chart. No. 12.

Sig. One powder every two hours for a child one year old.

I have also frequently combined apolysin with calomel, and lately have combined it with the compound powder of jalap in the following manner:

R. Apolysin,
Sacch. alb., - - - - aa gr.lx.
Pulv. jalap. comp., - - - - gr.xxx.

M. ft. chart. No. 12.

Sig. One powder every two hours.

Apolysin is applicable for the reduction of high temperatures in any and all affections in which antipyretics are required.

My best results were obtained by giving the powders before meals, although some authors advise giving them after meals.

To children five grains for the first year and one grain more for each additional year may be given with some sugar every two hours or even hourly until fever has been reduced sufficiently to satisfy the physician of the removal of the liability to convulsions.

With some children it is preferable to give apolysin per rectum, owing to the difficulties of giving them medicines. In giving drugs per rectum I follow the usual rule of doubling the dose per mouth, and give a child one year old ten grains of apolysin in a suppository, as may be required. When using rectal medication I invariably advise the precaution of a cleansing enema of one pint of glycerin-soap water, or castile-soap

water injected quite high in the rectum or into the colon.

Not one single case showed disagreeable effects from this drug, and it was very well tolerated by weak stomachs.

In all thirty-eight cases were experimented with, eight of which I here report. Several are still under treatment and observation. One highly instructive case of double lobar pneumonia occurring in the child of a physician I am not at liberty to report. The one point which was noted in the latter case was the ease with which fever could be reduced, without even the pulse showing any alteration in frequency or rhythm, and without reaction directly attributable to the drug.

In not one single instance did I notice a subnormal temperature. Copious perspiration was frequently found when large doses of apolysin had been taken.

In several cases, notably one, children took ten grains every hour for twelve hours or one hundred and twenty grains in all. I took especial pains to notice that not a single eruption ever followed large doses of apolysin.

That this drug can be given with impunity before or after meals I have frequently tested, but it seemed to me that the best results were obtained by giving the drug before meals.

I would repeat the statement made in the beginning of my paper, that in using this drug I have discarded all antipyretics, because I have never seen the reduction of temperature accomplished by any one of them without the system suffering from a general depression caused by weakening of the heart and subsequent derangements.

Apolysin can hold its own in the treatment of acute specific diseases in which quinine and antipyrin have been so often given, without, however, making the body suffer from the consequent heart depression.

It is therefore one of the most valued additions to the *materia medica* in the treatment of that most dreaded disease, "la grippe."

In infancy it will prove one of the most valuable drugs if given in large doses, and herein lies its safety, because, owing to its chemical constitution it has no cumulative effect, as has digitalis for example.

In a case reported by me in this paper I gave 360 grains of apolysin without having the patient suffer any depressed feeling; on the contrary, the more he took of the drug, the brighter and better he felt.

Enteroptosis and Intra-Abdominal Pressure.—Schwerdt (*Deut. Med. Woch.*, Jan. 23, 1896) begins a study of this subject based on 95 cases, of which 6 occurred in men and 89 in women. In one case there was total enteroptosis except that the spleen was unaffected. The stomach was displaced and atonic in 69 cases, and the kidneys were also displaced 86 times on the right side and 4 times on the left. In 18 cases there was a pendulous abdomen, in 11 prolapse of the uterus, and in 27 pelvic inflammation with hemorrhages. In most cases the hand could be pressed deeply into the

abdomen, showing a diminished intra-abdominal pressure. As regards gastroptosis, it does not appear to occur without atony. The atonic stomach must be distinguished from the dilated one. In case of prolapse of the intestine, the mesentery must be relaxed. The transverse colon may show the most marked change. If no other signs of subjective sensations of enteroptosis are present, the movable kidney should be taken out of this category of disease. The author also refers to the hydronephrosis which may complicate movable kidney. Movable liver and spleen rarely exist. The author has noted marked displacements of the uterus and appendages apparently in causal connection with enteroptosis. Retroflexion is comparatively frequent. Dyspeptic symptoms are common, and later in the disease there may also be palpitation, dyspnea, headaches, mental depression, etc. One of the effects of lessened abdominal pressure is accumulation of gas in the stomach and intestine. The development of poisonous products is thus facilitated. The author considers the following among the causes of enteroptosis: (1) Heredity; (2) unsuitable habits of life; (3) chronic diseases such as tuberculosis, chlorosis, hysteria; (4) corsets; and (5) pregnancy, etc. He records a case which he had under observation for eight years. Here there were at first symptoms referable to the pelvic organs and stomach. Later the right kidney was displaced, and was fixed by nephrorrhaphy. Then the left kidney became movable, but further operation was declined. The liver was also displaced downwards. When the nature of the disease was recognized, and suitable treatment adopted, most of the symptoms disappeared. The disease is obviously never fatal, but it is productive of much suffering. The diagnosis is not always quite easy.—*Brit. Med. Jour.*

Buccal Ulceration in Typhoid Fever.—

Devic (*Province Med.*, Nos. 50 and 51) considers this lesion fairly common in typhoid fever (*Brit. Med. Jour.*). It consists of ulceration of the anterior pillars most frequently. The lateral aspect of the tongue, the anterior surface of the soft palate, and lastly, the tip of the tongue come next in order of frequency. The ulceration is always superficial, oval or round in shape, with regular margins which are not undermined. They may be very red or yellowish-red, and are frequently covered by mucus, but never show false membrane. There is frequently pharyngitis, with the dry, shining appearance of the mucous membrane so common in typhoid. On the tongue the ulceration is somewhat deeper and the margins less regular and slightly raised. As a rule there are no symptoms, the ulceration being indolent in character and therefore only found when specially looked for. There is no glandular enlargement. These lesions appear early in the case, and the author quotes Tripier as stating that they run an absolutely parallel course with the intestinal lesion, and they do not begin to disappear or heal until repair begins in the intestinal ulcers. The author looks upon them as of great importance from their accessible position as a guide to the

condition of the intestine. This has been proved in fatal cases in which the buccal and intestinal ulceration were almost identical. On the other hand, the author was even able in three cases to predict a relapse, for this reason: that, notwithstanding that the general state of the patient had improved and the temperature lowered, there was no attempt at cicatrization of these ulcers in the mouth. He believes that if the buccal ulceration begins to heal coincidentally with lowering of the temperature there is no danger of a relapse. As to their frequency, the author estimates that they occur in about one sixth of the cases, and they do not in themselves affect the prognosis. As to their causation, there is so far little to be said. As to treatment, nothing special is required beyond the ordinary cleansing of the mouth; certainly caustics are uncalled for.

A Safe Antipyretic and Analgesic for Children.—In the "American Text-Book of Diseases of Children," edited by Dr. Louis Starr, a long list of diseases is given in which phenacetine may be employed with advantage as an antipyretic or analgesic. The following citations from this work will, however, suffice to illustrate its value in pediatric practice. In his remarks on antipyresis in measles Dr. Starr says: "Antipyretics are still on trial, but the safest is phenacetin. This may be administered in an initial dose of one grain for any age between two and six years. If the temperature falls afterward, wait and observe the extent of the depression, if not, repeat the dose after the lapse of an hour; should this fail, gradually increase the amount to two or three grains. The first dose may be given when the temperature ranges above 103°, and the drug may be repeated as often as necessary to keep it below this point, the cardiac condition being carefully watched in the meantime." In the abnormally high fever of scarlatina Dr. M. P. Hatfield (*Ibid*) finds that phenacetine sometimes gives much comfort. With regard to the action of this remedy in typhoid fever. D. C. W. Earle (*Ibid*) remarks: "I can state with definiteness that from two to three grains of phenacetine given to a child from eight to ten years of age with a temperature of 104°, will reduce it almost without a doubt to 100° or 100.5°. I have tried this many times and can speak with confidence. This, in my judgment, is the best remedy at our disposal if we must administer a drug for the reduction of temperature." In the treatment of acute bronchitis Dr. W. S. Christopher (*Ibid*) states that "the modern coal tar antipyretics have a marked effect. They appear to act almost as specifics, diminishing the amount of secretion, lessening the severity and frequency of the cough, and relieving pain, without acting like opium in simply covering symptoms. Of these, the safest probably is phenacetine. For an infant from six months to two years of age the following formula will be found useful: Phenacetine, grs. xii to xiv, caffeine, grs. j to ij. Div. in chart No. 12. Sig. Give one every few hours. The smaller dose may be used at six months and the larger at two years. For

younger infants the dose should be reduced and for older children slightly increased." These citations from a standard text book serve to emphasize the valuable properties of this remedy in the various febrile affections of childhood.

The Serum Treatment of Diphtheria.—H. F. Filatow (*Russian Archives of Pathology, Medicine and Bacteriology*, vol. i, Jan. 20, 1896), speaking of the results derived from the serum treatment, refers to the statistics given by him in his "Lectures on Infectious Diseases in Children," Moscow, 1895. In more than 5,000 cases treated in this way, the mortality was 18 per cent. In this paper Filatow has collected 832 cases, lately reported by general practitioners from different parts of Russia who have been employing the serum treatment, the mortality being 19.2 per cent. In agreement with the majority of the observers, the author considers it necessary to combine the use of the serum with local treatment, for this diminishes both the duration of the disease and the time during which the patient must be isolated. As regards immunity, although experiments made in this way on animals and some statistics of preventive inoculation in men during diphtheria epidemics speak in favor of the preventive treatment, the fact must be taken into account that there is an individual immunity to diphtheria, and at any rate it can not be said for certain that without this inoculation the individual would have got diphtheria. It has not yet been established that albuminuria occurs more often under this new treatment. Secondly, if the antitoxin influences the kidneys, it does not do so immediately after the injection, but after a lapse of several days so the antitoxin from this point of view could not be the immediate cause of death. Further experience has shown that the earlier the treatment with antitoxin commences, the less the chance for the patient of getting kidney troubles. The albuminuria therefore does not afford even the slightest contra indication to the antitoxin treatment.—*Brit. Med. Jour.*

SURGERY.

The Advantage and Technique of Capillary Abdominal Drainage.—Dr. Weller Van Hook (*Amer. Gynecol and Obstet. Jour.*) says the most frequent cause of failure of artificial drainage is the mechanical inability to remove the exudations or secretions as fast as they are produced. The amount of fluid thrown out and the length of time it will take place can not be estimated and the perfect drain should always be able to withdraw a maximum amount of fluid. Insufficient drainage is only a little less calamitous than no drainage at all.

The glass tube frame, invented by Koeberle and improved by Keith, was a step toward perfect drainage, but there were still two serious difficulties—the action

of gravity, and the mechanical interference offered to drainage by the intestines. The first objection is imperfectly met by aspirating the contents of the tube at frequent intervals.

The great objection to the tube is that it becomes a genuine culture tube containing a perfect nutrient fluid for bacteria and this fluid is protected from the naturally destructive action of the peritoneal tissue by the walls of the tube and the micro-organisms have a safe retreat where all the conditions are favorably for development.

The author says the ideal is found in capillary drainage, the capillary material being placed between the intestines and elevating the fluid to the external dressings.

The soft yielding capillary strands in no wise irritates the peritoneum. This can not be said of glass drainage. The firm tube is liable to wound the delicate serous membranes, when it is pushed and pulled about by the respiratory and other abdominal movements and by the continuous intestinal peristalsis. Drainage by the glass tube seems to be more favorable to the formation of adhesions than capillary drainage. The author describes a case which suggests the technical perfection of the capillary drain. It was a case of intestinal resection, which terminated fatally in a malignant form of peritonitis. The whole abdominal cavity was filled with pus except where the gauze had been pushed. Under the gauze and for several inches in every direction about the drain no pus was found. The site of suture was perfectly clean.

The influence of the drain extends about four inches in every direction about the gauze.

Another advantage of the gauze is that it causes speedy coagulation and checks all capillary hemorrhage.

After a variable number of hours the capillary drain becomes covered and blocked by coagulated fibrin and by the accumulation of cells and it ceases to act. It must then be renewed.

An important point is to so arrange the dressings that the fluid drawn up by the capillary pack may be diffused in the external absorbent materials so that no obstacle to the capillary action may supervene.—EDGAR THOMPSON, M.D.

Early Operation in Mammary Cancer.—

Dr. John Van Ransselaer says the statistics of the ultimate results of operations on the breast for malignant tumors has greatly improved in the past few years (*Amer. Jour. Obstet's*). The results of the work of Gross, Agnew and Sands seemed discouraging, but today at least twenty-five per cent of permanent cures follow the radical operation.

The minute anatomy of the breast is very favorable to an epithelial growth. Glandular ducts and vesicles ramify in the areolar tissue and about the gland tissue lie abundant lymph spaces and ducts which empty mainly in the axillary glands.

The author depreciates the influence of heredity as a causing factor except as it relates to congenital weakness of tissues. Traumatism, chronic inflammations

and the induration persisting after puerperal abscesses are positive predisposing causes. The writer believes the superimposition of an inflammatory mammary complication on the depressed general condition after delivery to be the inception of many malignant tumors. The chronic eczemas of the nipple of elderly women (Paget's disease) predisposes to cancer.

As age comes on the connective tissue of the breasts increases. The newly formed fibrous bands contract and cause an atrophy, simple fatty degeneration and absorption of the parenchymatous tissue. But if this usual retrogression is disturbed and irritative changes and proliferating tendencies in the endothelial cells are set up by the new connective tissue a favorable opportunity for cancerous growth is offered.

The author has found the following method of examination to be of value in detecting early symptoms, viz., laying the hand flat on the small tumor, and rolling it under the palmar surface, if the growth is malignant two points will generally be noticed; the tumor will have an unyielding stony hardness; it is infiltrated and does not move freely within the breast like an encapsulated benign tumor.

Before the adjacent lymphatic glands are infiltrated and infected with the cancer cells they become temporarily swollen by a simple inflammatory process. This inflammatory enlargement of the lymph glands is an attempt to limit the growth. It is a temporary barrier against general metastatic infection.

The extent of the lymphatic infection regulates the prognosis.

There is one fact which should be held in mind; that at first a cancer of the breast is a local degeneration, which extends, in the direction of least resistance, towards the surface, before there is any invasion of the deeper structure or lymphatic glands. A radical operation before the infiltration has begun to extend downward will result in a cure in most cases.

The author says the older operations were incomplete and did not succeed because all cancerous tissue was not removed. The infiltrated gland was removed by close dissections, and there was, almost always, an infection of the external incisions.

Surgical conservatism has no place here and pretenses at such must be condemned. There is only one thing to do—to remove every vestige of cancerous tissue. When this is done a large per cent of cures occur.

The proper operation is a simple excision of all tissues possibly infected—entire breasts, fat, axillary glands, clavicular glands and pectoral muscles.—EDGAR THOMPSON, M.D.

History of Anesthesia, or Painless Surgery.—Dr. William R. Hayden has recently published a series of interesting papers in the *International Journal of Surgery* under the above title. A few extracts are here given:

The dust of more than forty years covers the battlefield of the great conflict for the fame and the reward

of the discovery of painless surgery, a conflict which was extraordinary in many of its aspects. The feebleness of some of the claims, the gall of bitterness, the falsehood and envenomed malice which were employed to defeat the ends of justice and secure the coveted prize, were marvelous if not without precedent. * * *

How it is possible with all the facts in the case fairly and honestly presented, for a candid and judicious mind to decide the discovery of anesthesia in favor of Horace Wells, passeth show. He made no discovery—no demonstration to surgery, beyond submitting to the extraction of a molar tooth—and he established no priority even at that. * * *

In the year eighteen hundred, Dr. Davy suggested very clearly all that has been accomplished by nitrous oxide gas up to the present time. The step from painless injury to the inferior extremities to the extraction of a molar tooth by the same process, was a very small discovery. Wells never discovered what could be done with nitrous oxide gas—he possessed no scientific knowledge of its properties or uses; beyond what he observed at a show for sport. * * *

If my limits would permit I could not do better than to give in full Professor A. A. Gould's eloquent account of Dr. Morton's first public demonstration of etherization at the Massachusetts General Hospital, October 16, 1846; it was so graphic and dramatic; but as I can not do so, I will endeavor to give the spirit of the scene, without the living picture, which should be painted by a master hand, as a great historical work, for the National gallery of art.

From the moment of the reception of Dr. James C. Warren's summons to appear at the hospital and prove his discovery before a body of scientific surgeons, Dr. Morton's nervous system was under a great tension. He knew too well what failure would mean to himself. He had witnessed Well's fiasco with nitrous oxide gas, he had heard him jeered at for his want of success, and to be jeered at in turn would be too much for his sensitive nature. The case which he had to etherize was quite a different affair from anything which had ever before been attempted, it was both difficult and dangerous. The die had been cast, but to him there was no such word as fail.

The night before the operation was a long one for Morton, but as day follows night it passed away. The morning was bright and beautiful. The operating room was packed with those anxious to witness the first attempt at painless surgery. The clock struck the hour of ten; fifteen minutes passed; Morton had not yet arrived; the surgeons were impatient. Dr. Warren said: "Dr. Morton has not arrived, I presume he is otherwise engaged," and evidently was doubtful of him keeping his appointment, and his manner and tone were such as to call forth a laugh. Taking up his knife, he was on the point of commencing his work, when, as if his last word was the cue for Morton to enter upon the scene, he came from a side door, paused for a single moment to take in the view before him, made a brief apology

for his detention, saying that he had to wait for one of his instruments.

All eyes were now turned upon him. Dr. Warren, turning to him, said: "Well sir, your patient is ready." With a few words of encouragement to the patient, Dr. Morton proceeded to etherize him, and when satisfied that his patient was completely under the influence of the anesthetic, he gave place to Dr. Warren, who proceeded to operate on a tumor in the man's throat which involved the arteries and which required great skill in the operator. The sharp knife of the surgeon penetrates the deep seated fascia; every eye in the amphitheatre is centered upon the table upon which the apparently lifeless form lies prostrate; the house is as still as death, no moan, no movement from the patient; all are astonished. The surgeon works on until the operation is completed. No one is more surprised at the result than Dr. Warren. A new thought takes possession of the spectators, which is expressed in their faces. Is he dead? No, he revives; the state of anesthesia is passing off and he is himself again. The dreaded ordeal is passed, the mental strain on the witnesses is relaxed, a new set of emotions and thoughts fills the place of painful suspense. Admiration instead of skepticism. Surgery is no longer agony. The patient had expressed no sense of pain. All is over, and Dr. Warren turns to the audience and says: Gentlemen, this is no humbug."

In a moment Dr. Morton is surrounded by those anxious to congratulate him and do him homage, the world's greatest benefactor. Out from the temple of agony went forth the glad news of the birth of anesthesia, everywhere the glad tidings took wings, and the great world rejoiced, and the name of Dr. Morton was honored by all grateful souls.—*N. Y. Polyclinic*.

Tendon Transplantation in Infantile Paralysis.—Parrish (*N. Y. Med. Jour.*, Oct. 8, 1892) describes a method he devised of suturing live tendons to those of paralyzed muscles, and so regaining lost function. He had sutured the healthy extensor-pollicis tendon to the paralyzed tibialis anticus tendon to remedy a case of valgus.

Goldthwait (*Bost. Med. and Surg. Jour.*, Vol. cxxxiii, No. 18) said he had operated upon four cases with this object. In one case, fully reported, of marked calcaneo valgus, the posterior muscles were all paralyzed, with the exception of the peroneus longus and brevis, and the tendons, of these muscles were displaced forward so as to rest on the outer surface of the malleolus. In this position their contraction caused extreme valgus and slight flexion at the ankle, instead of extension, as is normal. An oblique incision 3 ins. long was made so that it crossed the tendo Achillis about one inch above its insertion into the os calcis. Through this wound the peroneal tendons were exposed and divided at about the lower edge of the malleolus. The tendo Achillis was then freed, and the tendon of the peroneus brevis passed under this and attached to the tendon of

the flexor longus pollicis. The tendon of the peroneus longus was then attached to the tendo Achillis, after which the wound was closed, and a plaster-of-Paris bandage applied, holding the foot extended. One month later a valgus plate was applied, and this has been worn since.

The method of attaching the tendons to each other is of great importance, and unless they are firmly joined the benefit of the operation is lost. The tendon to which the attachment is to be made is split, and the end of the severed tendon, after it has been scored, is drawn through this slit, and securely held by two quilted sutures, which are so placed that when tightened the outer tendon is spread out, furnishing a broad surface for union. The valgus has largely been corrected, and what remains is controlled by the plate, so that the tread of the foot in walking is quite normal.

Milliken (*Med. Rec.*, No. 1303, p. 581) records a case in which he successfully grafted a part of the tendon of the healthy extensor proprius pollicis into that of the tibialis anticus, which was paralyzed. In this case his object was to preserve the use of both the muscles. He has also suggested grafting the satorius into a paralyzed quadriceps femoris to regain extension at the knee — *Amer. Med. Surg. Bulletin*.

Conservative Treatment in Crushing Injuries to the Limbs.—The conservative method of treatment, according to the author, is better in cases of crushing injury to the limb than amputation, no matter what may be the nature or extent of the traumatism (Reclus, *Med. Week*, iii, No. 45, p. 530). He simply wraps the limb in antiseptic substances, and leaves the dead tissue to be separated from the living by natural processes, simply making an incision at the right time in the bone at a suitable spot. This method reduces the high death rate, which usually followed amputation for traumatism.

He reports that two out of four of his cases would have undoubtedly died had he disarticulated the hip or amputated both legs at the time that he first saw them, and the results of the conservative treatment were that the patient whose hip would have been disarticulated retained the thigh, and the patient whose lower extremities would have been amputated at the thigh retained one-half of both legs, so that he can readily apply articulated apparatus. In another case, where both legs would have been amputated; the patient recovered not only with his legs, but also with his feet, and was able within a year to walk over thirty kilometers at a stretch.

His procedure is as follows: The hair is shaved from the limb up to the site of the injury, the skin is cleansed with turpentine, ether, potassium permanganate, or alcohol, so as to remove every trace of grease. The margins of the wound are opened to disclose all irregular cavities of diverticula, which are thoroughly irrigated with water at a temperature of 60° or 65° C., in order to remove all clots, foreign bodies, and splinters not adherent to the periosteum.

There should be no hesitation in rubbing and wiping energetically all the tissues with cotton swabs steeped in a strong antiseptic solution. When the whole region has thus been thoroughly and methodically disinfected, strips of gauze steeped in a poly-antiseptic ointment, are introduced into each cavity, each diverticulum, and applied to each detached part.

After having thoroughly anointed the whole affected space the flesh is brought together, and around it a moist gauze bandage is drawn rather tightly. The procedure suffices to consolidate the tissues and to squeeze from the interstices any excess of antiseptic substances. The dressing need only be renewed every two or three weeks.

The results of this treatment are truly marvelous. Out of seven patients six recovered perfectly, with the crushed limb wholly or partly preserved. One died from hyperacute tetanus, after twenty-five days, so that now the author associates with his treatment the anti-tetanic serum treatment for tetanus after Roux's and Nocard's method.—*Amer. Med.-Surg. Bulletin*.

OBSTETRICS AND GYNECOLOGY.

Hysteromyomectomy and Hystero-Salpingo-Oophorectomy by Continuous Incision.—Dr. Howard C. Kelly has contributed a substantial addition to gynecological literature in a paper on the above subject in the *Bulletin of the Johns Hopkins Hospital*.

The author sees the field for the radical extensive operations being greatly limited. But there are a certain number of cases that demand complete extirpation. Hysteromyomectomy is the indicated treatment where the uterus is distorted by myomata, or myomatous masses. The removal of uterus, tubes and ovaries must be done in all cases of cancer of the uterus and annexa, and in old inflammations which have bound the tubes and ovaries in such dense adhesion that dissection is impossible.

The author's operation, which he has performed in 200 cases, consists in a primary abdominal incision after which the ovarian vessels are ligated and cut near the brim of the pelvis. The round ligament is then ligated and cut free near the uterus. The peritoneum is then incised between these two points. Then an incision is carried across in front of the uterus, from the stump of the round ligament on one side to the same point on the opposite ligament, and dividing the vesico-uterine peritoneal septum. The bladder which is now free is depressed with a sponge exposing the supra-vaginal portion of the cervix. The uterus is next drawn to the opposite side which pulls up and exposes the uterine artery which can easily be ligated where it leaves the uterus. Any large veins may be tied. The cervix is then cut through close to the vagina. As the last half of the cervix is exposed the remaining uterine artery

can be clamped, divided and ligated. Rolling the uterus still farther over the right round ligament comes to view. It is clamped, out off, and ligated. Lastly, the ovarian vessels are ligated near the brim and out and the whole mass—uterus, tubes and ovaries can be lifted out. The operation is finished by closing the cervix and uniting the anterior and posterior portions of the peritoneum over the wound. The operation can be begun from either side.

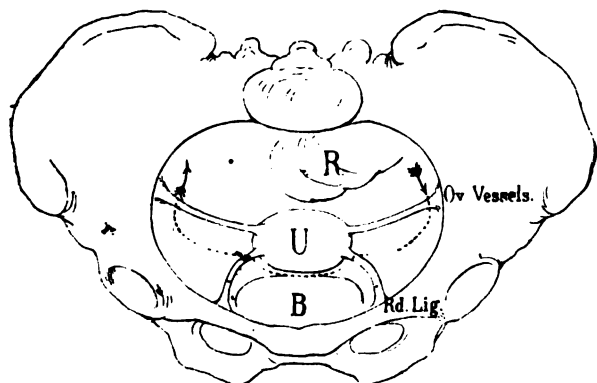
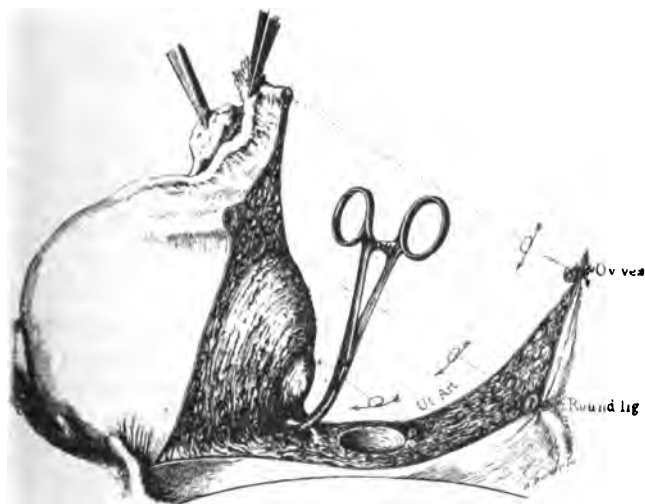


FIG. 1.—Showing line of incision through peritoneum from left to right, through left broad ligament, round ligament, utero-vesical peritoneum, right round ligament, and ending with right broad ligament near the pelvic brim.

This operation has many advantages. It saves from sixty to eighty per cent of the time consumed in the ordinary methods of enucleation. Displaced ureters will never be injured as they are pressed down with the



BLADDER

FIG. 2.—Left ovarian vessels tied, left round ligament tied, vesical peritoneum divided and pushed down and left uterine vessels ligated. Cervix amputated and uterus pulled up and out, exposing right uterine artery, which is clamped an inch above the cervical stump. The two following steps are clamping the right round ligament and right ovarian vessels, when the mass is removed.

bladder, and are still further removed when the uterus is pulled up. The great saving of time has a very

favorable influence on the result and shock increases in a geometrical ratio as the enucleation is prolonged. The operation is bloodless.

The author says this operative method is especially to be recommended for its simplicity and perfection in dealing with the two most serious complications of other operations, viz, fibroids located under the peritoneum of the pelvic floor and inflammatory masses with dense adhesions situated behind the broad ligament. Matted inflammatory masses are easily removed when they are rolled upward with the uterus.

The cuts give a very clear representation of the technique of the operation.—EDGAR THOMPSON, M.D.

An Unusual Case of Placenta Previa.—At 11 o'clock on the evening of the 20th of December last, I was called in consultation to see a patient with the following history: She was an American, thirty years of age, a housewife; weight about 115 pounds; rather slight, and somewhat ill nourished; quintipara; all previous pregnancies normal, and labors short and easy.

The pregnancy had advanced to the fortieth week, and had been uneventful up to 1 P.M. of that day. The first warning of her approaching labor was a gush of blood which the patient thinks was rather more than half a pint; this came while she was walking about the house at her work. She immediately went to bed and sent for a midwife, who came shortly after. The pains came on promptly and increased in frequency and severity until 8 P.M., when recurring hemorrhages so alarmed the midwife that she sent for a local physician. His first examination showed two thirds dilatation, with the placenta presenting, attached all around and within easy reach of the examining finger.

The hemorrhage was so alarming that he at once sent for a consultant. At 10.30 P.M., a terrific pain forced out placenta, and all pains and hemorrhage immediately ceased. On my arrival the patient was lying with a placenta between her knees with the cord intact; the bed was flooded, and the overflow formed a pool on the floor under and about the bed. It seemed incredible that so much blood could have come from so small a body. Her face was pallid, the pupils widely dilated, the sphincters relaxed, the skin clammy, and the pulse too small and frequent to count.

My first thought was to follow the usual teaching on this subject and empty the uterus, and since upon asking the opinions of several of the leading obstetricians of this city, with one exception, each said that he should have adopted that course. However, on second thought it occurred to me that as the hemorrhage had ceased there was no need of haste in extracting the fetus, and there was grave necessity of rallying the patient at once. I raised the foot of the bed about half a yard, and maintained it in that position by placing the back of a chair under it. I ordered hot water, and while this was being prepared gave morphine sulphate gr. $\frac{1}{4}$, and strychnine sulphate, gr. $\frac{1}{16}$ hypodermatally. I made a $\frac{1}{2}$ per cent solution of common salt in

a fountain syringe, the water being at a temperature of about 120 degrees F., and at once injected two pints into the rectum. After waiting five minutes I administered a third pint, at the end of ten minutes more, a fourth pint, and at the end of another ten minutes a fifth and last pint. During all this time I took care that some of the solution was allowed to return by making a compress of a towel and keeping up firm pressure against the anus about the tube. Instead of the ordinary rectal nozzle I used one of plain glass which was at least $\frac{1}{4}$ of an inch in diameter at the smallest part, thus allowing a rapid flow of the solution into the bowel. The patient almost immediately showed signs of returning consciousness and complained that the fluid was too hot, and the last part of the injection was given at a lower temperature. Improvement in the radial pulse had been almost immediate. The compress was held in place for fifteen minutes longer, and upon being taken away none of the fluid returned. The pulse was now 120 and the color was a great deal improved. On abdominal palpation I found the breach at the fundus, the back at the left anterior, the head in the pelvis. Internal examination showed that the uterus had regained a fair degree of tone and the assistant physician said the dilatation seemed much less than when he had first examined.

Podalic version was performed under chloroform, and a well formed male fetus weighing seven and one-half pounds was extracted, the operation lasting about three minutes. When I lifted the head out of the pelvis about a pint of amniotic fluid free from blood escaped, and during the operation there was no hemorrhage. The complete amniotic sac which had been torn free from the placenta at the margin was delivered with the fetus. I administered 25 minims of ergotole hypodermatically and the uterus contracted promptly. The only other medication used in the case was the digitalis, ergot and quinine post-partum mixture in drachm doses twice daily.

The patient made an uneventful recovery and was discharged well on the tenth day.

The unusual features of the case seem to be the abrupt cessation of labor and hemorrhage following the spontaneous delivery of placenta. From 10.30 P.M. until midnight, when the fetus was delivered, there was no sign of returning labor or further loss of blood. It seems to have been one of the cases where teaching and experience of others offer no assistance to the obstetrician. On the contrary had the operation been performed immediately, the added shock must have proved fatal.

As to the method of the administration of the saline solution, I do not wish to underrate anything that has been said in favor of venous injections, but had the time been taken for the proper sterilization of the apparatus and material used to render the intravenous operation safe, the patient would probably have been beyond assistance. In these cases he acts best who acts quickly, and the value of the large tube over the needle

or medicine dropper is apparent. The importance of the large quantity of the hot fluid in the bowel in this condition of shock cannot be overestimated. If the quantity of the solution seems large let me say that I have since used as much as seven pints in a case of post-partum hemorrhage with the happiest results.—CHARLEY A. WHITNEY, M.D., in *New York Polyclinic*.

Ulcus Rotundum Simplex Vaginæ.—Beuttner (*Monats. f. Geburtsk. u. Gynäk.*, Feb., 1896), after fully recapitulating past literary records, describes two instances of this singular disorder in his own experience (*Brit. Med. Jour.*). The first patient was 44; she died of mitral stenosis with many complications. The ulcer lay on the posterior vaginal wall, an inch below the os uteri. It was over half an inch in diameter. The second patient was 58, and had also succumbed to valvular disease. In almost the same position the cicatrix of an ulcer of the same type was detected. Zahn described the first case of this disease about twelve years since (*Virchow's Archiv.*, vol. xcv, p. 388). The patient was 76, and had died of cardiac disease with extensive endarteritis. In 1889 he detected another round ulcer in the body of a woman, aged 51, with mitral disease and pulmonary phthisis. In 1894 Braithwaite described two cases ("destructive ulceration of the vagina") in living, sickly patients. Browicz's case was 59, and died of pneumonia; there was widespread atheroma of the arteries including the uterine. Here thrombosis and obliteration of the vessels immediately around the ulcer were detected. Skowronsky's patient, aged 37, was sickly, like Braithwaite's. Beuttner notes that this *ulcus rotundum simplex vaginæ* is in no way related to Clarke's *ulcus phagedenicum corrodens*. The round ulcer is not malignant but clearly a result of malnutrition. Beuttner's second case, where the ulcer was first found after death, yet was then already healed, though the patient had died of a grave chronic visceral disease, proves that general treatment (probably rest in hospital in this instance) can alone effect a cure. Braithwaite's first case was not benefited by local applications.

Argonin.—The investigations of Liebrecht, Meyer and Jadassohn (*Ther. Wochenschr.*) have established the fact that argonin, like nitrate of silver, is destructive to bacteria, and especially to the gonococcus, while it does not cauterize or burn the tissues like nitrate of silver. It has been employed with the best results in cases of gonorrhea in both sexes (in a 1 to 2 per cent solution). It seems to lack astringent properties and therefore must be supplemented by something else in catarrhal cases. It is made by transposing casein sodium with nitrate of silver, which produces a powder soluble in warm water. To dissolve it, wet first with a very small quantity of cold water, until every particle is moistened, and then warm it on a water bath, until it is all dissolved. Fifteen grams argonin contain as much silver as one gram nitrate of silver.—*Journal of the American Medical Association*.

NOTES : AND : ITEMS

The Ohio State Medical Society will hold its fifty-first annual meeting in Columbus, Ohio, on May 27-29.

The British Medical Association.—The next meeting of this association will be held in Carlisle on July 28-31, 1896.

St. Louis College of Pharmacy.—The commencement exercises of the St. Louis College of Pharmacy took place Thursday evening, April 16, at the Germania Theatre.

Gifts to McGill University.—W. C. McDonald, of Montreal, has given \$500,000 to McGill University for the purpose of providing a building for the study of chemistry, mining and architecture. This brings his gifts to this university up to \$2,000,000.

A New Treatment for Colds.—Dr. Schnee is said to have cured acute coryza by a series of slight taps with a rubber hammer on the forehead just above the root of the nose. The theory is that slight shocks upon terminal nerves have the effect of contracting the blood vessels.—*Med. Record.*

A New Anesthetic.—Dr. Pize, of Montelinar, France, has discovered a new anesthetic. He has found that by injecting guaiacol under the skin in small doses operations can be performed without pain. A committee appointed by the Academy of Medicine has inquired into the value of the discovery and has congratulated Dr. Pize upon his achievement.

Diphtheria Antitoxin in Japan.—There were 358 cases of diphtheria treated by serum injections in Tokio during the year ending November 25, 1896. Of this number 31 or 8.78 per cent, died. In the statistics collected by Kitasato of 26,521 cases of diphtheria in Japan, treated before the introduction of serotherapy, the number of deaths was 14,996, a mortality of 56.54 per cent.

Danger in Purgatives in Certain Cases.—A case of acute diffuse peritonitis with alarming symptoms was treated by laparotomy, when the small intestine was found twisted around the vermiform appendix in which there was a small perforation (*Annales de la Soc. Med.-Chir., de Liege*). The occlusion was complete, but fecal fluids escaping through the hole in the appendix, had produced a serious condition. Winiwater describes his treatment of the case, with the removal of the appendix and an incision in the intestine to remove the accumulated gases. The abdomen was sutured without drainage, and the patient made a complete recovery. He remarks that in such cases there is scarcely

any means of determining the presence of a perforation, yet if a purgative were administered, instead of the opiates he ordered, the increased peristaltic movement of the bowels would have forced fecal matter through the hole and a putrid, fatal infection would have been the result in all probability.—*Jour. Am. Med. Ass'n.*

Novel Variety of Incontinence of Urine.—Albarran describes an unusual form of incontinence of urine in the *Annales des Maladies des Org. Gen. ur.* The subject was a degenerate, nervous girl who for nine years had been unable to control the flow of urine except when lying down. Investigation disclosed that the bladder and uterus were united with an abnormal adherence which caused the vesico urethral sphincter to gape when standing or sitting, but in a reclining position, the weight of the uterus caused it to fall back, thus closing the sphincter. The organs were slightly malformed, but nothing serious. She was entirely cured of the incontinence by an operation in which an incision was made into the anterior wall of the vagina, extending from the neck of the uterus to the neighborhood of the urethra; the uterus was detached from the bladder with the fingers and scissors, and the space thus left stuffed with iodoform gauze. Fifteen days later the neck was treated with faradization three times. Fifteen months have passed since the operation with no symptoms of a relapse.—*Jour. Amer. Med. Ass'n.*

To Remove Hardened Wax from the Auditory Canal.—Laurens writes to the *Independance Med.* to warn against the use of instruments of any kind, as it is liable to be followed by the most serious consequences (*Gaz. Med. De Liege*). He recommends the syringe alone, well sterilized and filled with boiled tepid water. It should be introduced along the upper wall of the canal so that the water will sweep the plug out of it, and five times full is enough for one day. The greatest care should be taken to work gently, and stop at the first trace of pain or vertigo. The plug can be softened with the solution of carbonate of soda, 1 gram in 20 grams of glycerin and water. Ten drops of this are to be warmed and poured into the ear three times a day; the head should be held so as to keep it in the ear for a while and then a tampon can be inserted. The injection should be repeated in forty eight hours. In case the plug of wax adheres to the meatus it should be seized with the pincers and held, while the injection is repeated until the plug comes out, when the canal should be wiped carefully with the finger wrapped in a sterilized rag, and a cotton plug inserted for a few days.—*Jour. Amer. Med. Ass'n.*

Dust on Food Supplies.—In an editorial note the *Sanitarian*, speaking of the sanitary condition of the city of Brooklyn, condemns what it characterized as "the abominable practice of feeding the dust of disease germs of every kind to the people which obtains throughout the city in default of well-regulated markets.

The sidewalks of the streets are the places of display for marketable food of all kinds. Meats, vegetables and fruits of all kinds are a part of the stock in trade of almost every grocer in the city and many other storekeepers. From the time of the opening of their stores to the time of closing them their food supplies are displayed on the sidewalks and dusted throughout the day with horse manure and every other kind of disease dust afloat in the air, from scabies to tubercle bacillus. At closing time these supplies are piled into the stores without regard to cleanliness or order, as they are to be tumbled out again the first thing in the morning; and, needless to add, the stir within the stores is quite sufficient for the like dusting of everything served over the counters. The dark recesses, closets, stow-holes and cellars of such stores are thus loaded with disease-buaring dust, more or less putrescible, according to the conditions of darkness, moisture and temperature, tainting everything that is served therefrom."

Mountaineering.—Can we regard mountaineering as in the main and for the mass of tourists a safe and healthful amusement? This is a question which can not be answered without considerable reserves and qualifications. Mountaineering—by which we mean ascents of 10,000 or 12,000 feet and upward—involves much strain and severe fatigue. The strain is first upon the muscular system; but it effect more importantly the circulatory, respiratory and nervous mechanisms. In some persons the heart seems to feel the tax most, in others the nervous system is chiefly affected. Palpitation and "mountain sickness"—the latter in all probability a neurosis—are the two chief difficulties that beset the average mountaineer.

It is clear from these considerations that mountaineering is not for everybody. There must be, first of all, a sound general physique, considerable endurance and the capacity for prolonged and continuous effort. But it is not at all so generally understood that a sound heart-muscle—a well-developed and well-exercised myocardium—is indispensable for any considerable mountaineering feats. Hence any suspicion of structural heart disease is an absolute contraindication for any such exploits. Further, the heart must be not only structurally sound, but well exercised and in good condition. Hence sedentary livers, who for eleven months in the year have no regular active exercise, should not employ their holiday month in mountaineering. Yachting or fishing will be much safer for such, and perhaps not less healthful.

Many Alpine accidents have been the result of neglect of this very obvious rule. For similar reasons mountaineering should be eschewed by persons in middle life who have not acquired the requisite training in youth, and even those who in the heyday of their early prime delighted in the sport and enjoyed many a "crowded hour of glorious life" on some Alpine summit would do well to remember Horace's maxim regarding

the aging steed, and bid a timely adieu to exploits no longer suited to their years. A certain stability of the nervous system is indispensable for mountaineering, but it is difficult to say anything precise on this head. Neurotic individuals not only climb badly as a rule, but they do not benefit by the air above a certain moderate level. A certain coolness of nerve is a necessary qualification for the many ascents which involve actual danger—danger usually avoidable and seldom extreme, but not to be lightly encountered by those deficient in steadiness and self-control.—*London Lancet.*

"Cruelty to Railway Passengers."—Under the above heading a series of letters has lately appeared in our contemporary, the *Times*, on a subject in which *The Lancet* has always taken the greatest interest. In 1862, the year in which the late lamented founder of *The Lancet*, Mr. Thomas Wakley, rested from his earthly labors, we held an exhaustive inquiry into the influence of railway traveling on public health, and from time to time, as occasion has arisen, we have directed attention to the inconveniences and evils borne by the too patient railway traveler. Much has been done since those early days of railway traveling, when we published our Commission, but many things remain in almost the same primeval state as then, and the indignation of the public which is shown by its letters to the daily press seems to be totally ignored by the companies. One of the evils of which complaint is made refers to the antiquated foot-warmers, and their lack of usefulness is a constant complaint of passengers during the winter months. Quite recently a case came under our notice where on one of the southern lines a footwarmer was supplied which flooded the carriage with water in consequence of a leakage. A douceur to a porter soon procured the exchange of the footwarmer, but the heat from the other warmers in the carriage caused the water on the floor to evaporate and fill the compartment with vapor. In addition to this the traveler was subjected to the inconvenience and danger of a draughty carriage—a characteristic of the carriages on lines south of the Thames—and was probably only saved from the effects of a serious chill by precautionary measures on arrival home. The lighting of our carriages, too, stands in urgent need of reform, as do also their ventilation and proper cleansing. These do not by any means constitute the whole of the grievances complained of by the railway traveler, but they are the things which obtrude themselves most on the notice, and to which he from time to time calls attention by a letter to the daily press. If the whole of the traveling public would unite in protesting against their treatment by the railway companies good results would immediately follow. The apathy of the British public towards that which immediately concerns itself is proverbial; nearly the whole of its woes result from its indifference as a body, and while its outbursts of indignation are spasmodic and isolated the companies are not very likely to mend their ways.—*London Lancet; Railway Surgeon.*

MEDICAL REVIEW,

A WEEKLY JOURNAL OF MEDICINE AND SURGERY.

VOL. XXXIII.

ST. LOUIS, APRIL 25, 1896.

NO. 17

ORIGINAL ARTICLES

Report of a Penetrating Gunshot Wound of the Abdomen, Followed by Recovery.

BY OTTO SUTTER, M.D.,

Superintendent of the City Hospital, St. Louis, Mo.

Jas. M., age 35 years, switchman by occupation, was brought into the City Hospital August 2, 1895, at 10 o'clock P.M., one and one-half hours after receiving injury, with the following symptoms: Face wore an anxious expression, lips bloodless, skin clammy with profuse perspiration, weak pulse, abdomen distended and dull on percussion, patient vomiting partly digested food and fluids of which he had recently partaken. Complained of pain about the region of the stomach, saying that it felt as though something was pressing the stomach. This sensation of pressure on the stomach was due to the large accumulation of blood in the abdominal cavity. On percussing the distended abdomen dullness was elicited over the entire surface of the abdomen. Patient stated that he was shot while attempting to escape from a police officer. On examination of back it was found that the bullet had penetrated about two inches to the left of the spinal column, having penetrated skin, fascia, gluteus maximus and gluteus medius muscles, passing through the left iliac bone and one one half inches below its crest, small particles of fractured bone were removed from this opening from which there had also escaped considerable blood. Anteriorly the bullet could be felt under the skin very readily one-half inch to the left of the median line. After carefully shaving and cleansing the abdominal surface and making a superficial incision over the region of the bullet, a 32-calibre bullet was readily extracted. An incision about two inches long was made in the linea alba, dividing the structures that composed it, together with some underlying adipose tissue. After having ligated all bleeding vessels I cut through the peritoneum. This having been done large quantities of blood gushed from the abdominal cavity. On examining the

intestines, picking coil after coil, it was found that the ilium had been perforated. This opening was united with a Lambert suture (a cambric needle and silk suture were used). The mesentery had two perforations, from which there was considerable hemorrhage. The bleeding vessels of mesentery were ligated with silk sutures. The injury to mesentery was repaired with silk suture by Lambert's method. Passing along the intestinal tract, I finally discovered that the descending colon had been perforated twice. Both these perforations were repaired by Lambert's suture. The injury to peritoneum was also sutured. The abdominal cavity was carefully freed from blood by mopping with sterilized gauze sponges. (There was no indication for flushing the abdominal cavity; this was not resorted to). The abdominal incision was united with interrupted silk worm gut sutures, a small opening being left at lower angle of wound for drainage, in which a glass drainage tube was inserted, into which wicks of sterilized gauze were inserted frequently to remove any exudation or hemorrhage that might possibly occur. The drainage tube was taken out the second day. The posterior wound was dressed with iodoform gauze.

Patient made an uneventful recovery, being discharged from the Hospital in four weeks.

Dangers Which Threaten the Usefulness of Cod-Liver Oil.

BY JNO. T. WINTER, M.D.,

Professor of Theory and Practice of Medicine, National University, Washington, D. C.

From recent observations I am convinced there are dangers which threaten the future usefulness of one of the most valuable remedies in the materia medica.

That cod-liver oil has valuable therapeutic properties has been known for two centuries. For half a century this oil has been carefully studied, and its physiological action and therapeutics placed upon a sound scientific basis. Until recently, thousands of physicians have prescribed cod liver oil, confident that certain results would follow. Thousands upon thousands of the laity have taken advantage of the teachings of the profession and of the experience of their fellow men, and incalculable benefit has resulted therefrom.

It is no slight matter to weaken the confidence of the profession in a remedy which has stood the test for at

least fifty years. It is equally serious to diminish the faith which the people have in so valuable a remedy. No one can deny that cod-liver oil has given comfort to those who could not be cured, has greatly prolonged the lives of vast numbers, and has restored countless thousands to health.

In the light of all this, is it not trifling with human life to break the faith of both physician and patient in a remedy which has proven itself so valuable, we might say, indispensable? Is the profession soon to lose faith in cod-liver oil as a remedial agent? And is the public about to abandon its use?

Neither physician nor patient will continue the use of a remedy unless the desired results are obtained. Experience has established these results. Cod-liver oil is not prescribed as an experiment. Its physiological action is no longer watched with an uncertain eye. But suppose these expected results no longer appear, what then? Confidence is impaired, and in looking about for a substitute a hundred worthless remedies are tried, and the most valuable time for successful treatment is lost.

Having for many years been a firm believer in the curative properties of cod liver oil, I have of late looked with great anxiety on efforts which tend to impair its usefulness. I can see at least three great dangers. Unless these are destroyed, the therapeutic value of cod-liver oil will be an uncertain factor.

THE FIRST DANGER—The first danger is the result of a modern theory that a part equals the whole! We all know that cod-liver oil is a most complex body. Its chemical analysis reveals the presence of many constituents. These have been called the alkaloids, or the "active principles" of the oil. They exist in peculiar combination with the fat, and are with difficulty separated from it. It is significant that nearly every original investigator has been able to extract from the oil some additional substance. In fact, even prior to 1888, there has been discovered over fifty elements in this oil. Within the past eight years chemists have been very active in discovering new principles, until at the present time I am not aware of the length of the list.

To break up cod-liver oil into these several ingredients, is to change its character altogether. I do not believe it is possible to take any of these constituents from the oil without either impairing or totally destroying the therapeutic properties of the parts taken or of those remaining. There is no doubt but the alkaloids of cod liver are valuable; they are valuable, however, *because of the peculiar combination as it exists in the oil*. To take all of the oil, or fat, from cod-liver oil, and then claim that the alkaloids are useful as a fat-producing food, is just as reasonable as it would be to administer iodine, bromine, or phosphoric acid to a patient as a food! Persons can live on cream and on other fatty foods, provided their digestive powers can properly care for so rich a diet. But they could not live on iodine or any of the alkaloids or active principles of cod liver oil, or on all of them combined. To use only the alkaloids of cod-liver oil, is to employ a remedy without value as

a fat producing food. If this be not true, then let us abandon the oil entirely and rely upon other sources for our iodine, bromine, etc.

This new theory of substituting a part for the whole is to many minds, the greatest danger which threatens the usefulness of cod-liver oil. No matter how ingeniously the alkaloids may be combined with wine or other liquids, the results of the past will no be verified by this substitution, and the profession and laity alike will distrust it. If they were only skeptical regarding these new preparations, the case might be different. But having been taught that cod-liver is valuable only for its alkaloids then the failures are charged against the oil as a whole, instead of against a part.

Even granting, for argument's sake, that all of the good properties of cod-liver oil reside in these so-called alkaloids, the fact remains there is no reason for believing that they would exert the same good office when thus isolated as when they existed in their natural state; just as a mineral water would not do the same amount of good if its various constituents were extracted and administered separately.

It must be laid down as a rule, founded upon scientific study and verified by scores of years of observation, upon hundreds of thousands of cases, that *the whole oil must be used* if the best therapeutic results are desired.

THE SECOND DANGER.—The second danger would be more serious than the first, but fortunately it can never grow to such magnitude. There are only a few manufacturers so unscrupulous as to impose such frauds upon the public as these to which I now refer.

In his "Practical Therapeutics," Hare says: "One of the emulsions widely advertised in the street cars of Philadelphia as 'tasteless' has been shown to contain no oil at all." He adds also that, "Oil devoid of smell is probably devoid of medicinal value, as all the peculiar properties have been purified out of it." Patients invariably object to the odor and taste of raw cod liver oil, so it is but natural they should be pleased with these "odorless and tasteless" preparations. That these preparations are in use at all is probably due to two reasons: (1) Only a few physicians are aware of the fact that they contain no cod-liver oil whatever; and (2) the laity have no reason for doubting that the mixture is other than what it pretends. The physician and patient have every right to expect that a "preparation" of cod-liver oil contains that oil. It is the most cruel kind of deception to thus impose upon those who place all their hope for health on this valuable remedy. As it is not present, so the results are not obtained. Therefore, cod-liver oil is put down as of no value whatever in such cases. Even if the deception be discovered, it is generally too late for the oil to accomplish good, at least to its full amount.

THE THIRD DANGER.—The third danger is a universal one, and is of great importance. To understand it a few words of explanation are necessary.

Without doubt the great bulk of cod liver oil is taken in the form of an emulsion. The reasons for this are

vident. A good emulsion has little of the fishy odor and taste, although these are always present. An emulsion is more easily born by the stomach and is not so able to cause eructations of gas. This is probably due to the fact that when an oil is emulsified it is, in a measure, digested, for the digestion of an oil is simply breaking it into minute globules. Modern physiology teaches that the oils are not saponified, but emulsified, by the pancreatic juice; this is the case, at least, with those oils which are assimilated. The oil in ordinary emulsions probably requires some further digestion in order to prepare it for absorption; but its emulsification is doubtless a great aid to its digestion. Then, again, emulsions are more pleasant to the taste than are the raw oils. Therefore we find the majority of physicians prescribing them, while the laity, undirected by physicians, almost invariably ask for them.

It is an unfortunate fact that there is no fixed standard for cod liver oil emulsions. We find one pharmacist offering an emulsion of his own manufacture at a certain price, while his competitor just across the way is offering one at a third less. But the former gives thirty per cent of oil, while the latter may give but ten, yet both preparations are "Emulsions." No physician should prescribe an "Emulsion" of cod-liver oil unless he knows the preparation contains cod-liver oil, and in definite proportions. To prescribe any "Emulsion" or "Preparation" of cod liver oil simply because it is an emulsion, or preparation, is to express as much confidence in the curative properties of the label as in the drug.

The third danger, therefore, is one due to unreliability and uncertainty. It is easily overcome by the exercise of ordinary care that those preparations be ordered which are reliable, and of definite composition.

It is because I believe cod liver oil to be such a valuable remedy that I call attention to some of the dangers which threaten its future usefulness. But they are dangers which we are abundantly able to remove, and which must indeed depart without effort if we keep clearly in mind the facts upon which cod-liver oil rests a reputation.

Cryostase is the name of a new substance discovered by a German chemist. It is a remarkable compound substance, and has some curious properties, among which is that of solidifying under the influence of heat and again becoming liquid at temperatures below the freezing point. It is the only substance which possesses the property of liquefying when cold and becoming solidified when hot; for although some substances like albumen harden at a slightly high temperature, they can not be brought back to a liquid state even under the influence of a very low temperature. All details of the composition are lacking. It is said to be made by mixing equal parts of phenol, camphor and saponine, to which is added a rather smaller quantity of turpentine.—*Information.*

MEDICAL REVIEW.

EDITORIALS

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PUBLISHED UNDER THE AUSPICES OF THE
MEDICAL REVIEW ASSOCIATION

By O. H. DREYER.

YEARLY SUBSCRIPTION, \$3.50. SINGLE COPIES, 10 Cents.

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Secretaries of medical societies will confer a favor by keeping us informed of the dates of the meetings of their respective societies, and of officers elected.

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Entered at the St. Louis Postoffice as Second-Class Matter.

Charitable Institutions for the Exclusive Treatment of Consumptives.

The idea of establishing charitable institutions for the purpose of treating consumptives exclusively is not a new one and has much to recommend it from the standpoint of political economy as well as that of well directed charity. The treatment of this class of unfortunates in general hospitals, irrespective of climatic and topographic location, is, in the light of modern knowledge, almost equivalent to leaving them to their fate of certain destruction which, under more favorable conditions, might often be avoided. It is a well known fact that in certain climates consumptives frequently recover and then may be practically as well as if they had never been infected with this disease, provided it has not taken too extensive a foothold in the tissues of the lungs. The establishment of a charitable institution at Oranienburg, in Prussia, must be looked upon as a considerable step forward in the attempts of subduing the progress of a disease to which one out of seven inhabitants of the civilized nations falls a victim. The belief

that consumption is incurable, is a fallacious one; but the early detection and prompt judicious treatment of the disease is of the greatest importance, as the advanced cases are nearly all fatal. The well-to-do consumptives have opportunities to avail themselves of a sojourn in climates where consumptives frequently get well, particularly if the favorable climate is assisted by a careful medical supervision. But the less fortunately situated have to take their chances with the climates in which they find a living and succumb to a disease which, under more favorable circumstances, they might have escaped. Institutions, like the one recently opened at Oranienburg, which are partly supported by a moderate fee by the patients and partly by charitable contributions, deserve the most careful consideration and investigation on the part of life insurance companies. Many insured individuals, suffering from consumption, who would with certainty succumb to the disease if allowed to continue in their usual occupations under unfavorable surroundings, might be permanently cured or so much improved that it would be a profitable enterprise for insurance companies to contribute towards paying the expenses of properly selected patients with a view of a cure, or such improvement that they may live for a much longer period than if they had continued to exist under less favorable conditions. The Prussian Life Insurance Bureau has recommended the institution, whose business and medical management is in most approved hands, to life insurance companies, some of which have already expressed their intention of contributing to the support of insured individuals who are in need of their support. The medical direction of the Institution has been intrusted to Professor Gerhardt, of the University of Berlin. The principle of the undertaking certainly deserves emulation in other countries as it promises to be of considerable assistance in the attempt of subduing the most formidable foe to human health and happiness.

Recent Restrictions of Academic Freedom in Prussia.

It appears as a most natural logic that in the education of young men the sudden and abrupt transition from a most severe discipline to unbounded freedom, is not the best pedagogic principle to follow. Although the character of many students may not be affected by such a contrast, there can be no doubt that some are thereby decidedly influenced in an unfavorable sense. It is true that the majority of students, who have successfully passed the maturity examinations at a German gymnasium, which entitles them to the entrance of a university, have acquired, in consequence of their thorough classical education, a sufficient degree of moral earnestness to successfully withstand the temptations presenting themselves in consequence of the freedom connected with student life at a German university.

There have always been advocates of a reform regarding the curtailment of some of the liberties of uni-

versity students, but the conservative element seems to have had the upper hand in this question until recently, when in at least one direction this liberty has been checked by a decree of the Prussian Government. In the future students in Prussia are obliged to have permission by the police as well as by the Rector of the University if they wish to hold a public or private convention. Whether this decree will be conscientiously enforced, or whether it will be a dead letter like the law prohibiting duelling among students and officers of the army, remains to be seen. At any rate, the successful effort of a reform in the unbounded freedom of university students in Germany indicates that the advocates of curtailing such freedom have increased in recent years and that, whatever arguments may be advanced in its favor, a preponderance of disadvantages has been recognized by the Government.

A New Ward for Infectious Diseases at the City Hospital.

A new building, designed for a ward for the treatment of infectious diseases, is being erected as an addition to the City Hospital. The building, which will be separate from all other wards, is 75 x 40 feet in area and one story high, so as to admit an abundant supply of fresh air and sunlight; also in other respects its construction is in harmony with the modern hospital requirements.

Dr. Sutter, the Superintendent of the Hospital, finds in his yearly report, that about eight hundred more patients were cared for at the Institution last year than in any previous year. He also finds that the treatment of surgical cases has been attended with as good success as in the former history of the Institution, and an equally good showing is made in the treatment of chronic cases and acute diseases.

The Baptist Sanitarium.

A communication signed by two representatives of the Baptist Sanitarium authorities was read by Dr. Duncan at the meeting of the St. Louis Medical Society in which sincere regrets were expressed with reference to the endorsement of a patented so-called opium cure by the Hospital management. The gentlemen stated in the communication that they had not been aware of doing anything wrong and that in the future similar occurrences would be eschewed. In view of the well-known custom among many clergymen to allow their names to be attached in religious periodicals to recommendations of all kinds of patented nostrums this open and honest statement as to the ignorance of any possible harm accruing from the endorsement of this class of remedies is of a most gratifying nature. Let us hope that many others will follow the example of the gentlemen who are the originators of the manly communication above alluded to. The communication was received and incorporated into the Archives of the Society.

The Daily Press on the Roentgen Ray as a Microbe Destroyer.

Although it has been reported by good authority and from various sources that the X rays have no influence upon diphtheria bacilli and other pathogenic germs, we read in the secular press that Professors H. P. Pratt and Hugh Wightman *announce to the world* that the bacilli of diphtheria and typhoid fever are *absolutely* killed by the Roentgen ray. Considering the many other extravagant statements of the papers with reference to the X rays we presume that no great harm has been done by the above press report to the professors. For in such matters the daily press has proven to be slightly overenthusiastic in its statements.

Annual Report of the St. Louis Health Department.

St. Louis is claimed to be the most healthful city of the United States, and figures are given to prove the truth of the assertion. Anent the subject of health, Commissioner Starkloff has this to say:

"The general health of the city was good, measured by the number of deaths, the total being 945, exceeding the previous year by 715—yet it must be accepted as a very low mortality considering the increase in population, it being generally estimated beyond 600,000, which would give the low death rate of about fifteen per thousand.

"The Department's conservative estimate is 500,000 and the death rate for the year 1883. Comparing this with tables showing the rate in ten principal cities in the United States, St. Louis shows up as the most healthful.

"The seasonable conditions during the year, however, were such as to favor certain forms of disease and gave to them an emphasis that otherwise would have been lacking.

"The mortality of children under five years of age is still keeping pace with former years, being 3375 deaths—36.8 per cent of the total mortality."

Death of Prof. C. O. Curtman.

To our profoundest sorrow the sad duty involves upon us to announce the death of Dr. C. O. Curtman, who passed away Wednesday morning, April 22. The deceased, who died of pericarditis, in his sixty seventh year, filled the chair of chemistry at the Missouri Medical College for many years, and in the St. Louis College of Pharmacy until a few years ago. In both institutions Professor Curtman enjoyed the love and estimation of his students and colleagues in the highest degree. His work as an investigator, teacher and author was characterized by a most conscientious and minute exactness. Whatever the deceased undertook he did with scrupulous care. We know of no teacher who was more pop-

ular among his students than our former teacher, colleague and friend, whose loss we are mourning. Until very recently Dr. Curtman took an active part in the discussions at medical and other scientific meetings where by his minute and deep knowledge on all chemical and medico-chemical subjects he contributed considerably to the interest and scientific spirit of the meetings. The St. Louis Medical Society, the Society of German Physicians, the Microscopical Society and the Academy of Science have suffered by his departure an irreparable loss.

We had the pleasure and honor to listen to his lectures, work in his laboratory as a student, and for many years meet him regularly at various scientific societies. As some of his recent literary productions were published in this journal we also had dealings with him as an editor, and we have good reason for a more than ordinary affection and esteem for the deceased as a gentleman, teacher and contributor to the *Review*.



Fewer men possessed and deserved the love and esteem of their pupils in as high a degree as Professor Curtman; nor are there many who, in departing from this world, leave behind them so large a number of sincerely mourning pupils, friends and colleagues. Nothing more desirable can follow him into his grave than the love and esteem of those who knew him best and had constant opportunities to admire his thorough knowledge and versatility as well as his plain, modest and amiable social qualities.

The pericarditis, from which Dr. Curtman died, was the result of an attack of grippe which he acquired fourteen days previous to his death. He was a native of Giessen, Germany. He came to America when seventeen years old, remained for awhile in New York and later in New Orleans. In 1859 he settled in Memphis as a druggist. When the Civil War broke out he enlisted in the Confederate Army as hospital steward with General Price. His knowledge of chemistry, however, soon procured him the rank of Lieutenant, and he was of great service to the Southern cause in manufacturing gunpowder and other explosives. Many of the formulæ

he made use of are still regarded as standard in the laboratories of war departments.

In 1866 he settled in St. Louis, taught chemistry in the old McDowell College, at Eighth and Gratiot streets, and commenced the study of medicine, which he afterwards practiced with success. It was, however, in the intricacies of chemistry that he made his great reputation. McDowell College subsequently changed its name and location and became the Missouri Medical College. His son George, by his first wife, is now a practicing physician at St. Thomas, Mo. By his second wife, whose maiden name was Miss Elizabeth Wilson, born in Tennessee, he had a family of three daughters and one son.

Dr. Curtman was the author of a number of works. His "Analytical Chemistry" and his "Lecture Notes" are to-day text-books in many of the best colleges in the country.

He was also consulting chemist of the Mallinckrodt Chemical Works in St. Louis.

Up to the last Dr. Curtman was himself a student. Despite his advanced years he kept fully up with and even in advance of the times.

The news of his death has cast a gloom over the entire medical profession, as well as over the faculty of the Missouri Medical College, of which he was the senior member.

His memory will long continue to live in the hearts of his many admirers and friends, while his original investigations and literary contributions have secured his immortality in the world of science.

The Thyroid Treatment of Goitre.—K. K. Serapin (*Vratch*, No. 5, February, 1896), on the grounds of practical and experimental experiences, comes to the following conclusions (*Brit. Med. Jour.*):

1. Under thyroid treatment the goitre diminishes in size, and may even sometimes return to its normal condition.
2. When the treatment is carefully carried out and the effect watched no complications occur.
3. It has also a beneficial influence upon the nervous system.

The Roentgen Rays and Certain Hysterical Phenomena.—Ottolenghi (*Rif. Med.*) suggests that the supposed power of seeing through opaque media, etc., which is claimed by certain hysterical, somnambulistic or trance subjects may have some objective basis in the light of the recent discoveries of Roentgen (*Brit. Med. Jour.*). The author supposes that in the more or less extra-normal conditions of the nervous system obtaining in this class of patient, the retina may be sensitive to the X rays, which, under ordinary conditions, fail to produce any impression. This suggestion is only meant by the author to apply to such cases as are inexplicable in any other way.

TRANSLATIONS.

BY EDGAR THOMPSON, A. M., M. D.

Death From Cold.—Dr. Locassagne credits the Russian physicians with the most complete investigation of the pathological changes coincident to death by freezing (*La Press Medicale*). Where the thermometric conditions are so favorable on account of a natural great degree of cold many opportunities occurred for making post-mortem investigations on cadavers in which vitality had been extinguished by cold.

The body, by the ability to produce heat, can resist cold to a very great degree but when the external temperature is reduced to a certain point (64° F. according to most observers) heat radiation takes place faster than heat production and the body temperature is progressively lowered.

All observers agree that dry cold is much less destructive than humid cold and a greater destruction in temperature can be endured if the air is dry than if it carries a large amount of moisture. Cold combined with fogs is particularly formidable. The increase in the atmospheric moisture makes the radiation of heat from the warm body more rapid. Moist air is a better conductor of heat than dry. Fatigue and insufficient food greatly diminishes the power to withstand cold.

Death by cold may be rapid or slow. There are usually premonitory symptoms—tinnitus, vertigo, scintillations before the eyes, and a progressive sense of ease and contentment, due to the anesthesia of the chilled surface. The eyes become haggard and there is more or less rigidity of the muscles of the neck and limbs.

If the death is rapid it is caused by an anemia of the nervous centers due to a great reduction in the action of the heart. The great contraction of the peripheral vessels engorges the cardiac cavities and still more inhibits the action of the heart. But the most important result of slow head movements is the poisoning by CO, which accumulates in the blood, due to the great reflex slowing of the respiration.

The slow death is also produced by gradually deepening lethargy as the CO₂ accumulates in the blood. The general symptoms are then paresis of respiration and cardiac function and accumulation of CO₂ in the blood.

* *

The diagnosis of death from cold is usually easy. The attitude of the body is important. The hands will be strongly clinched, the limbs, as a rule flexed, and the body is in a titanic opisthotonos curve. The rigidity of the muscles is more marked than a simple post-mortem rigidity. The features are pinched, the eyes are open. Putrefaction is delayed and occurs slowly and at the post-mortem colored spots appear slowly. The general aspect of the skin is pale and the paleness contrasts strongly with the prominent red course of the superficial veins. There are no subconjunctival ecchymoses, so

common in death from other circumstances. The crystalline lens becomes opaque.

Thrombus and rapid coagulations of the blood may occur in the veins and emboli may be detached, and passing to the heart or lungs cause immediate death.

The surfaces on which the weight of the body rest is very little flattened and the usual cadaveric spots are not noticed.

The heart is large and engorged with blood; there are endocardial hemorrhages. The blood in the heart is liquid if death has been rapid, and more or less clotted if death has been slow.

Emboli are frequently found in the lungs. There are, usually, a limited number of small hemorrhages in the mucous membrane of the stomach.

The Absorption of Drugs Through the Skin.—MM. Linossier and Lannois find that there is no uniformity of opinions as to the real value of the application of drugs to the skin by means of pomades, fomentations and baths (*Lyon Med.*, March 29, 1896). The general view has been that the absorption through the skin is inconsiderable as compared with that of the lungs and intestines.

The author's clinical researches with certain drugs demonstrate that a considerable amount of absorption takes place when the drugs are simply anointed on the surface without friction.

After the cutaneous application of guaiacol the urine of the subsequent twenty-four hours contained a very appreciable amount of the substance. The success of the experiments with guaiacol has led the authors to propose the external application of the drug for its antithermic effect.

Salicylic acid is even more rapidly absorbed than guaiacol. It may be that the acid, which is volatilized at the temperature of the body, traverses the skin as a vapor. The acid also probably alters the skin so as to make it more permeable.

The authors have searched for a compound of salicylic acid which is more volatile and consequently more easily absorbable and they have adopted salicylate of methyl. This body is very rapidly absorbed and salicylic acid is soon found in the urine in a very sensible amount.

When sixty grains of the methyl salt is anointed on the skin the elimination of the acid is very uniform and persists for about sixty hours. At the end of three hours the rate of elimination is two grains for every quart of urine. The amount progressively increases for nine hours, after which it declines. The average total amount eliminated in the urine averaged about fourteen grains.

As the amount of salt recovered from the urine is only a portion of that absorbed it can be seen that the method of administration is scientific. The authors assert that they have found as much salicylic acid in the urine after inunction as after the patient had swallowed the sixty grains of methyl salicylate. A consid-

erable amount of the acid is also eliminated from the intestinal mucous membrane after absorption through the skin.

The absorption through the skin of the salicylate of methyl (or salicylic acid) is very uniform and under continuous applications the daily amount eliminated by the urine does not vary.

That the drugs are vaporized before they penetrate the skin and that they are absorbed as such is shown by experiments conducted by the authors. They placed a double cylinder, of wire netting, about the forearm of a person. The inner wall of the cylinder was one-half inch removed from the skin. The cylinder was filled with gauze saturated with salicylate of methyl and the arm and cylinder was enveloped in rubber tissue. After a few hours a considerable amount of salicylic acid was detected in the urine, indicating that the salt in the wire frame must have been vaporized and filled the one-half inch space between the cylinder and the skin.

* *

The technique of local application of volatile drugs to obtain their systemic effect is as follows: The medicament is simply laid on the surface without friction or rubbing and covered with guttapercha tissue to prevent a general diffusion of the vapor and a thick layer of wool is laid over the tissue so as to induce a temperature sufficient to volatilize the drug. The application remains twenty-four hours.

It is better to use the drug unmixed with any so-called vehicle. If the base (vaseline, lard, etc.), is used the absorption is not so great.

The authors have only experimented with guaiacol and salicylate of methyl, but recommend the above method for any of the drugs which readily become vaporized.

MEDICAL SOCIETIES

The American Orthopedic Association.

The tenth annual meeting of the American Orthopedic Association will be held at Buffalo, May 19-21.

President, Dr. Royal Whitman, 126 West 59th St., New York; Secretary, Dr. John Ridlon, 103 State St., Chicago.

The President's Address, Dr. Royal Whitman, New York.

Some practical points in the treatment of Lateral Curvature of the Spine, Dr. A. B. Judson, New York.

Some Etiological factors in Lateral Curvature of the Spine, Dr. E. G. Brackett, Boston.

Cases illustrating the absurdity of treating ordinary Lateral Curvature (Scoliosis) by Spinal Supports, Dr. Bernard Roth, F.R.C.S., London.

The rationale of Gymnastic Exercise and Pressure

Correction in the treatment of Scoliosis, Dr. L. A. Weigel, Rochester, N. Y.

The rapid cure of Rotary Lateral Curvature of the Spine and other postural deformities by means of a thorough development, and corrective exercise with heavy weights; with demonstration of the method, Dr. Jacob Teschner, New York.

A simple and efficient brace for Lateral Curvature, Dr. S. L. McCurdy, Pittsburg, Pa.

Congenital Misplacement of the Femur anteriorly, Dr. DeForest Willard, Philadelphia.

Further remarks on Congenital Dislocation of the Hip, Dr. Bernard E. Brodhurst, F.R.C.S., London.

Report of a case of double Congenital Dislocation of the Hip, treated by the Lorenz method of operation, Dr. Reginald H. Sayre, New York.

The Cure of Congenital Dislocation of the Hip by means of the "Functional Weighing" method, without open operation, Dr. Adolf Lorenz, Vienna.

Spontaneous Dislocation of the Hip, Dr. William J. Taylor, Philadelphia.

The Treatment of Club-Foot:

1. When to commence treatment and how.
2. The indications for mechanical treatment.
3. The limitations of mechanical treatment.
4. The indications for operative treatment.

5. Results of 343 operations performed by the writer, Dr. A. M. Phelps, New York.

Investigations on Flat-Foot, Dr. E. H. Bradford, Boston.

Mechanical Support for Flat-Foot, Dr. J. C. Schapps, Brooklyn.

The Anterior Transverse Arch of the Foot, Dr. Joel E. Goldthwait, Boston.

Injuries of the Tarsus and the Ankle Joint, Dr. J. D. Griffith, Kansas City, Mo.

Subtendinous Exostosis, Dr. E. G. Brackett, Boston.

The mechanical treatment of Ingrowing Toe Nail, Dr. Henry L. Taylor, New York.

The operative treatment of Paralytic Deformities of the Foot with particular reference to Arthrodesis, Dr. V. P. Gibney, New York.

Some mechanical problems in the treatment of Pott's disease, Dr. John C. Schapps, Brooklyn.

The operative treatment of threatening abscesses in the high dorsal region. Dr. E. H. Bradford, Boston.

The treatment of Pott's Paraplegia with a report of two cases, Dr. LeRoy W. Hubbard, New York.

Osteomyelitis of the Spine, Dr. T. Halsted Myers, New York.

Suppuration in Joint and Spinal disease and its relation to Tubercular Meningitis; an Analytical Study, Dr. Samuel Ketch, New York.

A study of the action of Iodoform Glycerine in Tubercular Osteomyelitis, Dr. Harry M. Sherman, San Francisco.

Joint diseases in Infancy, Dr. Augustus Thorndike, Boston.

The use of Dry Heat of high temperature in the

treatment of Chronic Joint Affections, Dr. William R. Wirt, Cleveland.

A theory of the Ultimate Etiology of Deformity and its practical application, Dr. Royal Whitman, New York.

The probable cause of the limp in the first and second stage of Hip Joint Disease, Dr. Harry M. Sherman, San Francisco.

Femoral Osteotomy for correction of Hip Deformity in adults, with a report of cases, Dr. A. R. Shanda, Washington.

A report of cases of Osteosarcoma of the Hip, Dr. Arthur J. Gillette, St. Paul, Minn.

Division of the hamstring tendons by the open method for correcting malposition and securing rest in Tubercular Disease of the Knee, Dr. Bernard Barton, Buffalo.

Tuberculosis of the Wrist and Carpus, Dr. James E. Moore, Minneapolis.

Symptoms and treatment of Slight Knock Knee in children, Dr. Robert W. Lovett, Boston.

Two cases of Dislocation of the Patella treated by operation, Dr. Joel E. Goldthwait, Boston.

Some notes on Spastic Paralysis in children, Dr. F. S. Coolidge, Chicago.

Some recent modifications in the treatment of Congenital Wry Neck, Dr. William Adams, F.R.C.S., London.

Contracted Fingers, Dr. Arthur J. Gillette, St. Paul. Congenital Club Hand, the report of a case treated by operation, Dr. C. E. Thomsen, Scranton, Pa.

Rare cases from Practice, Dr. A. J. Steele, St. Louis.

A report of some cases of unusual Congenital Deformities, Dr. John Ridlon, Chicago.

Congenital defects of the Long Bones, a report of cases and operations, Dr. B. E. McKenzie, Toronto.

Deformities of the Humerus due to Rickets, Dr. Augustus Thorndike, Boston.

A report of family Anomolies, Dr. S. L. McCurdy, Pittsburg.

Readers will please prepare abstracts of their papers, in order that the proceedings of the meeting may be satisfactorily reported.

Medical Association of Missouri.

The thirty-ninth annual meeting of the Medical Association of Missouri will be held at the Court House in Sedalia, Mo., on Tuesday, Wednesday and Thursday, May 19, 20 and 21, 1895, convening at 10 o'clock A.M. on Tuesday the 19th.

Sedalia is easily accessible from every section of the State, and we expect the largest attendance ever had by the Association. You are cordially invited to attend.

We take pleasure in advising you that a rate of "one fare and one-third" for the round trip, upon the certificate plan from points in Missouri, has been granted to delegates; provided that not less than one hundred tickets shall be certified to by the Secretary. Take a

certificate from the ticket agent when you buy your ticket, and if you travel over more than one road take a certificate for each ticket purchased. Present your certificate to the Secretary as soon as you arrive.

Do not purchase your ticket earlier than three days prior to the opening day of the meeting. The following roads have agreed to give the "one and one-third fare" on round trip tickets, viz.: All roads belonging to the Western Passenger Association whose lines extend into Missouri; also the M. K. & T. Railway; and the Kansas City, Fort Scott and Memphis Railway, South of and via Clinton.

The leading hotels will give reduced rates.

President, C. Lester Hall, M.D., Kansas City, Mo.

Secretary, Frank R. Fry, M.D., St. Louis, Mo.

Committee of Arrangements, W. H. Evans, E. F. Yancey, and A. F. Dresel.

Philadelphia County Medical Society.

At a meeting of the Philadelphia County Medical Society held April 15, a committee was appointed to urge the members of the American Medical Association to favor the holding of a semi-centennial celebration of its organization.

The Society also instructed its delegates to invite the Association to hold the meeting of 1897, which will be the semi-centennial, in the city of Philadelphia.

Western Kansas Medical Society.

The annual meeting of the Western Kansas Medical Society closed on April 14, at Lawrence, Kan., with a banquet, given by the local members of the profession to the visitors at the Eldridge House. There were afternoon and evening sessions of the Society held at the Kansas University. The meetings were largely attended by physicians from all over the western part of the State. Prof. L. I. Blake gave some experiments with the X ray, and its value to the profession was discussed. Dr. S. W. Williston read a paper on "Cerebral localization." Papers were also read by Dr. R. E. McVey, Dr. S. E. Sheldon, Dr. Ida C. C. Barnes, and Dr. J. S. McGee, Topeka; Dr. W. S. Dunn, Lawrence; Dr. J. D. Wilson, Nortonville.

The following officers were elected for the coming year: President, L. Reynolds, Horton; Vice President, J. F. Rogers, Ottawa; Secretary, W. E. McVey, Topeka; Treasurer, C. K. Longshore, Topeka.

The Dangers of Advertising.—Dr. Krause has resigned his position of privat-docent to the Berlin Medical University, owing to a difficulty with the faculty, who had asked him to give his reasons for allowing his name to appear at the foot of a testimonial or a certain brand of soap. On his refusal to do this, the faculty inflicted the severest reprimand in its power and he resigned.—*Boston Medical and Surgical Journal.*

ABSTRACTS

MEDICINE.

Racial Anatomical Peculiarities—At a recent meeting of the Anthropological Society of Washington, a report of which is published in the April number of the *American Anthropologist*, Dr. D. K. Shute read a paper on this subject (*N. Y. Med. Jour.*) in which he said that the structural peculiarities of different peoples had interested him greatly since an early period in his anatomical studies when, as prosector to the chair of anatomy in the Columbian Medical School, he found in the human subject the rare muscle known as the levator claviculæ, and listened with pleasure to the enthusiastic explanation of its significance given by Dr. Elliott Cones, the distinguished ornithologist, then professor of anatomy at that school.

During the whole course of his teaching, said Dr. Shute, Dr. Cones always insisted upon the importance of studying variations, and his influence still continued in the school, for demonstrators and students were always requested to report at once any deviations from the normal structure that they might find in the course of their dissections.

In Washington there was an excellent opportunity to study structural peculiarities in a race, the negro differing in many interesting respects from the Caucasian.

All students of ethnology recognized readily such obtrusive structural peculiarities as the color of the skin, the character of the hair, and the physiognomy; they also knew, in connection with the latter factor, how craniology had been invoked to discriminate between races.

But cranial as well as other measurements of the body showed considerable variations in the relative proportions of parts within the same race, a fact, says the author, which had led many to think that ethnologists had made too much of such measurements—had often given them undeserved prominence and applied them too frequently to the exclusion of other elements.

Cranial capacity, for instance, was not indicative of race in individuals; it was only of value as an induction based on an examination of large numbers of skulls; and even here it was only important when taken in connection with other features. To say that a skull belonged to a high race instead of a low one, for instance, because it was megacephalic was entirely misleading; but to say that a high race would contain a larger percentage of megacephalic skulls than a low one was not only true, but helpful to the ethnologist.

As bearing in an interesting and instructive manner, said Dr. Shute, upon the question of racial anatomical peculiarities, a study of the present evolution of man was important. Man apparently was undergoing at present a comparatively rapid development, almost as

rapid, it had been observed, as was that of the horse from eocene times.

In this evolution of the races or subspecies of man, sexual selection had been a potent factor in producing the more glaring anatomical peculiarities, such as the color of the skin, the amount and character of the hair, and its distribution over the body; but also use and disuse accounted for many of the less obtrusive ones.

This latter statement brought us, he thought, to questions at issue between Weismann and Spencer as to the transmission of acquired characters.

Some of the regions in which evolution might be said to be now going on were as follows: the skull, in which the face was decreasing in size, with early closure of sutures, while the cranium was increasing in size, with late closure of sutures.

The canine teeth had comparatively recently been reduced in size and the third molar teeth were tending to disappear.

The assumption of the upright posture had led and was still leading to an interesting series of correlated changes in the thorax, the pelvis, and the lumbar vertebræ.

This posture had shifted the weight of the abdominal viscera from the thorax to the pelvis, and we found in consonance with this fact the eight, ninth and tenth ribs were reduced in size, the twelfth rib tended to disappear, and also the last lumbar vertebra tended to fuse with the sacrum, thus tilting the pelvis up still farther.

In reference to this subject, said the author, Professor Osborn had suggested that it would be interesting to note the condition of the ribs in some of the large belted tribes of the Africans. Rosenberg predicted that the man of the remote future would probably have but twenty-three free vertebræ.

The curvatures of the spinal column were tending to increase.

The pelvis in the female, in correlation with the augmenting cranium, was increasing in size and thus diverging more and more from the male type.

The bones of the big toe, through use, were tending to increase in size, while those of the little toe, through disuse, were tending to decrease, with reduction of the number of phalanges by ankylosis.

In the study of these and other portions of the body that might be considered as still undergoing an evolution, it was important, he said, to note in the different races the degrees of divergence presented from the ordinary normal type and the percentage of relapse into more primitive conditions.

As the muscular system offered a degree of plasticity not found in the harder tissues, he was strongly inclined to think that the study of its variations must be fraught with instruction and interest. But in the study of these variations, he said, a sharp distinction must be made between those that were atavistic (the levator claviculæ, dorso-epitrochlearis, etc.) and those that were prophetic (e. g., the occasional appearance of a double abductor pollicis and the occasional absence of the palmaris

longus); also, in the study of all variations, whether muscular or not, due care must be exercised in eliminating fortuitous cases—sports or monstrosities—such as supernumerary digits and incisors.

In this study of atavistic structures percentages of relapse might throw important light on racial structural peculiarities.

Muscular racial variations were most instructively investigated in those organs that were distinctively human, such as the hand and foot.

As man descended from arboreal, quadrumanous animals, his assumption of the upright posture has led to specialization in two different directions—the thoracic extremity for prehension and the pelvic one for locomotion.

On the one hand, man's thoracic extremity (especially his hand), having been used for vastly more diverse and complicated purposes than that of his simian ancestors, has undergone greater specialization; for instance, the extensor secundi internodii pollicis was completely separated from the extensor indicis; the flexor longus pollicis was detached from the flexor profundus digitorum; also the extensor minimi digiti had withdrawn its additional tendons from the third and fourth digits and was now restricted to the little finger. The extensor primi internodii pollicis was separated from the extensor ossis metacarpi pollicis, etc. On the other hand, the muscles of man's foot, which in his simian ancestors had been concerned in making his foot prehensile as well as locomotor, were, through disuse, undergoing atrophy and disappearance (e. g., the adductor and abductor hallucis and flexor brevis minimi digiti) where they were not generalizing by fusing (e. g., the flexor longus hallucis with the flexor longus digitorum).

The opponens hallucis was a muscle that was found normally only in the orang. It occasionally occurred in man as a reversion.

Therefore, said Dr. Shute, in view of these facts, the following question was an interesting one: Do the different races in respect to these structures present different percentages of reversion to the simian characteristics?

It was interesting to note in this connection that percentages of reversion in osseous structures differed in different races and epochs. For instance, it has been observed that the intercondylar foramen was present in a little over three per cent of the skeletons of the present time; in a little over five per cent of those that belonged to the time from the fourth to the tenth centuries; in twenty-four per cent of those belonging to the Dolmen period; and, finally, in thirty per cent of those of the Reindeer period.

Again, the third trochanter of the femur had been found in one per cent of our race; in thirty-seven per cent among the Swedes; in fifty per cent of the Sioux, and in sixty-four per cent among the Laplanders.

In the light of these facts, Dr. Shute thought that a wider study of muscular variations in different peoples would present an interesting and instructive field for

the investigation of racial anatomical peculiarities.

He mentioned some of the anatomical peculiarities which, he said, taken together, stamped a race as high or low—viz., cranial sutures that were simple in arrangement and united early; a wide nasal aperture, with the nasal bones ankylosed, undue projection of the jaws and receding chin; well-developed wisdom teeth appearing early and permanent; a humerus of undue length and perforated; an elongated calcaneum; a small calf of the leg; a flattened tibia; a narrow pelvis, etc.

These characteristics were simioid, and the races possessing them in the largest number and development were the lowest in the scale.

Measured by these criteria, the Caucasian stood at the head of the racial scale and the negro at the foot.—*N. Y. Med. Jour.*

Hydrozone in Purulent Otitis Media.—

Dr. Wm. Clarence Boteler, of Kansas City, Mo., reports the following case, supposed to involve inflammation of the mastoid:

On November 4, 1895, I was consulted at my office by Robert P., aged 24 years; occupation, laborer in the Armour Packing Company. The patient complained that for about four weeks he had been suffering from intense pain in his left ear, making it impossible for him to sleep at night, or rest during the day. The pain was so severe that at times he apparently lost consciousness and it seemed to extend through his entire brain. Upon inspection, the man's face was found terribly deformed; an edematous swelling the size of one-half of an ordinary loaf of baker's bread occupied the usual location of the ear and the surrounding muscles. The auricle of the ear was almost buried in edematous tissue; upon palpation, the part was found intensely tender, and deep pressure evoked expressions of excruciating pain. The integument and subcutaneous tissue were thoroughly infiltrated. Ichorous, fetid pus was slowly exuding from an almost imperceptible meatus. The patient expressed feelings of chilliness, showing a possible septic contamination of his system. Every indication and sign pointed to possible suppuration of the mastoid cells—tenderness upon pressure over the mastoid being very marked. Efforts to locate the tenderness, whether in external meatus or mastoid, for discriminating diagnosis, were unsatisfactory. I concluded to withhold a positive diagnosis as to whether the condition was purulent otitis media or suppurative inflammation of the mastoid, and used tentative treatment for a short while. I immediately placed the patient under heroic doses of elixir of the six iodides internally. After laborious effort I succeeded in separating the edematous tissue sufficient to admit the introduction of a small Eustachian catheter into the external meatus. Through this, with a small hard rubber syringe, I injected four times daily about one-half an ounce of hydrozone, allowing it later to drain away, advising hot fomentations. The patient was confined to his bed and the best possible hygienic surroundings provided. In twenty-four

hours after the treatment was commenced, the intensity of the odor, amount and character of the discharge had manifestly lessened, the swelling was reducing and the patient feeling better. The edema being lessened, the aperture was enlarged. I now recommended the injection of hydrozone through a catheter of large calibre, every hour, requiring the head to be kept turned to the opposite side for ten minutes to allow the percolation of the hydrozone as deeply as possible into the middle ear, before reversing the position to allow drainage. We continued this treatment for a week, the man's recovery progressing with remarkable rapidity, his pain and the constitutional symptoms having disappeared about the third day. At the end of eight days the swelling had entirely disappeared, his features were again normal, and he expressed himself as perfectly well. An examination showed a circular perforation in the ear drum the size of a shot, proving that the case had been one of purulent otitis media with septic contamination of the patient's system, and infiltration of the surrounding cutaneous tissues. Small incisions were made at two different places to permit the exit of pus from the integument. The mastoid was found not involved. The rapidity with which the disease yielded after the introduction of hydrozone through the catheter into the middle ear impressed me with the wonderful value of the preparation, for, struggling with such cases during a practice of seventeen years, I have never seen its efficiency equalled by any medicinal or operative procedures.—*Medical Bulletin.*

Formaldehyd in Hardening Sections.—

Thus far it has been almost impossible for the practitioner himself to prepare microscopical sections of growths, etc., as are sometimes necessary for correct diagnosis. (H. Plenge in *Munch. med. Wochenschr.*) The author recommends the use of formaldehyd to effect the hardening of the sections. By his process, however, the use of a Yung's planing microtome becomes necessary. The method consists of the following steps:

1. Hardening of the section, cut as thin as possible and about 1 cm. long, in a 4 per cent solution of formaldehyd. With sections 1 mm. ($\frac{1}{32}$ in.) thick; half to one hour is sufficient to allow for the hardening process. A longer immersion does no harm; still it should not exceed a week. The solution need not be renewed, and it may be used several times before changing.

2. Preparation of the frozen section. The disks or cuts are frozen in formaldehyd solution or in water. The latter is recommended for harder objects. The sections are best made about 30 to 10 microns thick.

3. Immersion in water, previously boiled, to free it from air, or, better still, in 50 per cent alcohol.

4. Staining in aqueous solutions of the aniline dyes.

5. Washing in water; alcohol, oil, Canada balsam.

The sections are well adapted for permanent mountings. Dr. P. states that this process is applicable to almost all cases. If sections have to be sent to a patho-

logical laboratory for further examination, they should be preserved in a 4 per cent solution of formaldehyd in preference to alcohol.—*Amer. Med. Surg. Bulletin.*

Practical Disinfection of Rooms.—The frequency with which second and third cases of scarlet fever appear in houses that have been disinfected by the inspectors of sanitary authorities, says *The Lancet*, causes grave doubts as to the efficiency of the procedure usually adopted, despite its official sanction. Stripping the walls, lime washing walls and ceilings, and scrubbing woodwork and floor boards with soap and water are indeed effectual enough, and to these when thoroughly done we are disposed to ascribe any successful results rather than to the mere technical process of so called disinfection by sulphur fumes, which is little better than a superstitious rite or incantation shorn of the religious character it had in the mind of Ulysses when he "fumigated" the halls desecrated by the massacre of his wife's suitors after removing the corpses and washing away the blood with a promptness that precluded all thought of other than moral pollution. But in the light of bacteriological experiments dry sulphurous acid fumes, whether generated by burning sulphur or carbonic sulphide, or, as has of late become the fashion, by burning cylinders of the compressed gas, are for all practical purposes useless. The gas would act as a fairly powerful germicide on articles or fabrics previously saturated with water, but its bleaching action precludes its employment in this way with colored materials, carpets, or curtains, and it is as what is called an "aerial disinfectant" that it holds its ground in popular esteem. But aerial disinfection is an absurdity; no one wants to purify the foul air, which is easily enough removed by simple ventilation. In disinfecting a room the true aim is to kill the germs contained in the dust on ledges or in the crevices between the boards, or adhering to the walls and other surfaces, and the dry gas is powerless for this, which is best attained by a sublimate solution of the strength of 1 part in 1,000, or by lime (not white) washing, provided the lime be fresh burnt and caustic; the carbonate or chalk used in whitewashing under the name of whiting, and into which lime is converted by long exposure to the air, being inert. The series of experiments on the infection and disinfection by various means of wall papers, distenders, and other wall surfaces conducted by Cronberg, under the direction of the late Professor Uffelmann at Rostock, showed that subsequent scrapings were invariably and almost instantaneously sterilized by washing or spraying with the sublimate solution, and equally so by lime wash after the lapse of twelve to twenty four hours. The danger of corrosive sublimate is, we believe, exaggerated, for the smallest fatal dose for adult being probably three to five grains—equal to at least a quarter of a pint of the solution—accidental poisoning with the solution is practically not probable, and as a further safeguard it might be colored with indigo or a "laundry blue." Carbolic acid, which is sold without restraint and is in

universal use, is more dangerous on that account, and is, indeed, frequently employed with suicidal intent and with fatal effects. In France, Germany and Italy sublimate has nearly superseded all other disinfectants and its neglect in this country is inexplicable. As to carpets, curtains, bedding, and clothing, all that is capable of being washed should be plunged in a copper of boiling water for a quarter of an hour and such articles as would be spoiled by this treatment should be disinfected by steam.—*Med. Record.*

The Distribution of Iron in Animal and Vegetable Cells.—Dr. Chittenden, in the *Dietetic and Hygienic Gazette*, says the study of "masked" iron in animal and vegetable tissue has been interesting, and it appears to be a fairly well established fact that the iron in the organism is intimately combined with the nucleins and nucleo proteids of the cells.

Extensive reference is made to the investigations of Macallum who asserts that, probably, all the iron assimilated in the tissues is organically combined with the chromatin of the nuclei of the cell. The chromatin fibrillæ, granules and nodal points (where the chromatin fibrillæ cross) all give the characteristic reaction with iron tests. Macallum says the depth of the color struck with the Prussian blue reaction varies directly with the amount of chromatin present.

Dr. Chittenden finds iron combined in the same way in the nuclei of the cells of the higher vegetables. In the cytoplasm of animal cells assimilated iron is not, as a rule, found, except in the hemoglobin and hematin of the blood, the hematoblasts of the vertebra, the enzyme-forming gland cells, and the yolk holding ova." But it may be that the iron is more or less combined with chromatin for nucleo-proteids exist to a certain extent in the cytoplasm as well as in the caryoplasm of cells.

Nuclein has a very strong affinity for iron and the combination is very close and resists the ordinary analytic methods.

Macallum has conducted many micro-chemical experiments and formulated some interesting conclusions. He found that a certain (small) amount of "masked" iron was found in some parts of the cytoplasm of secreting cells, as those of the parotid and pancreas. When a section of a hardened pancreas of an amblystoma were treated with a glycerine and sulphide mixture for several days the iron reaction would be given by the chromatin and also to the cytoplasm of the so-called "outer zone." The experimenter could not determine the relation between the amount of iron and secretory activity of the cells because the loose sulphides caused a disappearance of the zymogen granules, but it is probable that the amount of assimilated iron is less as the granular zymogenic zone of the glandular cells increases.

The presence of iron in the cytoplasm of the cells seems to have an important relation to the formation of the particular secretion for which the cell is destined.

The exact manner in which the iron is comprised in

the chromatin is not definitely determined, but it is probably united in an organic combination with carbon and nuclei. The amount of iron depends on the quantity of nuclein. Whether the iron is in a ferrous or ferric state can not be determined by the reactions as the acid causes the liberation of the iron in the ferric state.

The direct obvious effect of the absence of iron is the blanching of vegetables, due to the non-formation of chlorophyll, and the anemia and chlorosis of the higher animals, due to the diminished production of hemoglobin and to the absence of iron compounds in the chromatin.

The absence of nuclein iron is, perhaps the most important element, as the cellular activity and growth is modified and obstructed thereby.

EDGAR THOMPSON, M.D.

SURGERY.

Enterotomy.—Dr. R. C. Chicken has recently emphasized the value of seeming trivial technical details to abdominal operation (*Sheffield Quarterly Med. Jour.*). He strongly condemns the selection of the linea alba as the site for the primary incision. Strangely, some of its advocates give as their reason for selecting it the fact that it does not go through any muscle. For laparotomies the site of election should be through the rectus by preference, but if this is impracticable, through some other muscular part of the abdominal wall. In these cases we get a much firmer cicatrix, and in enterotomies a more sphincter-like opening.

If we consider the nature of the structures constituting the middle line, we find that with the exception of the skin and peritoneum it is composed entirely of almost non-vascular structures, which, although forming occasionally a very thick wall, and in their entirety a very strong one, are prone to make a very poor union, and in a proportion of cases, a cicatrix composed of skin and peritoneum only. This, owing to the elasticity of the skin and mobility of the peritoneum on the sub-peritoneal fat, allows the harder tissues to separate widely, admitting the formation of a large hernia. For the more vascular parts are firmly united long before the aponeurosis, so that at the time the dressings are discontinued and artificial support taken away, the tough fibrous web on which the middle line depends for its maintenance of tension, is in a primary state of formation little calculated to resist strain.

The method advocated by the author, and one which he has never seen to result in a hernia, is to cut upon a muscular part of the parietes and then separate the muscular bands entirely with the fingers or a dull instrument in the long axis of the skin wound, using the knife for the division of the intervening fasciæ only. By these means in whatever direction the fibers run they will split open widely, but will readily fall into their place again on suturing the wound.

Having entered the abdominal cavity, the next point is to quickly locate the position of the disease demanding our operation. If the hand is passed through the abdominal wound at once to the cecum, it tells us these things: (1) Whether the disease is located in or about the cecum itself; (2) if distended, it points to the large intestine; (3) if not distended, but rather empty, that we must look to the small intestine for the situation of the disease. The author adopts the simple plan of first passing his hand down to the cecum; the touch immediately recognizes whether there is anything wrong with that organ or its appendix—whether there is appendicitis or perityphlitis. If it be found free from adhesions but distended, the obstruction is clearly not in the small intestine; the colon is then easily traced as far as the sigmoid flexure, and an appropriate operation can be done.

There are two causes of shock in colotomy which are sometimes needlessly incurred: (1) Delay in finding and identifying the colon; (2) the adoption of a protracted method of operation.

Very often the operator will experience a difficulty in finding a comparatively small colon, unless he has a definite guide for at once localizing it. Coil after coil of small intestine will bulge out of the wound, the part wanted never presenting. This difficulty is obviated by remembering the line of attachment of the mesentery to the posterior abdominal wall. If, therefore, the finger is passed through the wound into the abdominal cavity, keeping close in touch with the peritoneum as it sweeps around the ilium towards the spine, it comes at once on the mesentery of the colon, and of course attached to it the large gut. It is very simple and easy, and in some cases will save much time.

ENTERECTOMY.—Passing to the subject of enterectomy the author notes two varieties: (1) An operation in the continuity of the bowel; (2) at its termination, more generally known as proctectomy. The cardinal points here again are efficiency and quickness. If two ways are equal in efficiency, the quickest is the best. The most rapid suture is the best and Murphy's button finds favor in the eyes of the writer.

EDGAR THOMPSON, M.D.

Abscess of the Lung Treated by Incision and Drainage.—About the middle of October, 1895, L. L., aged 25, received a pistol wound of the chest on the right side between the second and third ribs, in the axillary line. It bled freely externally and there was some expectoration of blood. The wound was cleansed and dressed antiseptically, and a hypodermic injection of morphine and atropine was given. The expectoration of blood-stained mucus continued for about a week, followed by a cough and temperature of 101° to 102° F. for two weeks longer, then gradually declined. The external wound healed and he seemed nearly well, when the temperature began to rise again with symptoms of secondary pneumonia. In the course of about two weeks he began to have severe sweats and other symp-

toms of pyemic intoxication. Later on the subcutaneous tissues over the whole side became very edematous and physical signs showed consolidation of the whole right lung. Repeated aspirations failed to get any pus, but as he was rapidly growing worse it was decided to make an incision and find the abscess. This incision was made between the third and fourth ribs, and soon after piercing the pleura there was a gush of very offensive pus, about two quarts being discharged. The cavity was washed out with sterilized water, a drainage tube was inserted, and the wound was dressed with iodoform gauze and absorbent cotton. Though very weak, the patient rallied from the operation very well and began to improve; the fever, cough, and sweats declined and the appetite returned. The cavity was washed out daily with a 1 to 5,000 bichloride solution followed by sterilized water. The cavity gradually became smaller and the pus diminished until now there is a very small cavity and he is nearly well. Some peculiar points in this case are the long time before abscess formation, the absence of rigors, profuse sweats, the pitting edema of the side, and intense nausea and vomiting. The medical treatment was mainly symptomatic and sustaining—iron, quinine, strychnine, whiskey, and concentrated liquid food—buttermilk being the only thing he could relish.

Surgery of the lungs is yet to be developed. Possibly the cure of pulmonary tuberculosis will be achieved in this direction in the near future, unless some more potent medical remedy is found.—G. K. SIMS, M.D., in *Med. Record*.

New Formation of Nerve-Cells in the Brain of a Monkey after Extirpation of the Occipital Lobes.—Vitzou (*Compt. Rend.*, Sept. 16, 1895) announces that he has accidentally found that the assumption that there can be no regeneration of the central nerve fibers or cells, is incorrect. In February, 1893, he removed both of the postero inferior portions of the hemispheres in a monkey. In four months the first total blindness began to pass away, and two years and two months later, the animal could see enough to avoid obstacles. At this time the brain was opened again, when Vitzou was astonished to find that the space occupied formerly by the extirpated lobes was filled with a newly formed substance, which tests proved to be nerve fibers and cells, although not so compact as in the normal brain. He believes that the improvement in the sight was due to this regeneration of the nerve fibers and cells.—*Jour. Amer. Med. Ass'n*.

Successful Operation for Tumor of Brain.—Roth (*Berl. klin. Wochenschr.*) reports a case of epithelioma of the brain occurring in a patient aged 60, with Jacksonian epilepsy, beginning in the right thumb and forefinger, spreading up the arm, over the face, and then affecting the right lower extremity. Paralysis followed an unusually severe fit, but gradually subsided. The eye gave no symptoms. Severe headache followed the

attacks. The tumor was located in the region of the left central fissure. Mixed treatment was without effect, in spite of a previous history of syphilis. After several months an exploratory osteoplastic operation was done, and the bone found thickened and roughened and adherent to the dura, but the latter appeared healthy. The bone was evidently the seat of some neoplastic process and was removed, and the wound closed. The microscope showed a new tissue formed of round cells. The symptoms were not relieved, and six months later the brain was exposed at the same place, and found to be the seat of a reddish-brown pulsating tumor, very soft, adherent to the pia mater, and penetrating between the convolutions, but external to the cerebral gray matter. The mass was the size of a hen's egg. Paralysis of the right side followed the operation, but this subsided, and the patient's other symptoms also disappeared.—*Amer. Med.-Surg. Bulletin*.

OBSTETRICS AND GYNECOLOGY.

Traumatism Coincident with Labor.—Dr. Geo. W. Jarman is of the opinion that lacerations of the cervix are, in most instances, unavoidable, and they occur in cervices which are congenitally malformed (*Amer. Med.-Surg. Bulletin*, March 28, 1896).

The great frequency of the lateral tear of the cervix is not a mere chance but is induced by certain causes. The lacerations do not take place until after the occiput has rotated forward, when, as the rotation takes place the anterior portion of the cervix is caught between the occiput and the pubis and the posterior position retracts over the brow, face and chin and a great strain falls on the lateral fibers.

Lacerations are much more frequent when the head dilates the cervix instead of the unruptured amniotic sac. The head, being solid, carries the cervix forward and puts it on a great tension. As the anterior position is pushed forward more than the posterior the greatest strain will occur laterally.

The author has examined a large number of uteri and has observed that the anterior portion of the cervix is much thicker than the posterior and that there is a distinct anterior and posterior column and between the two, or at the sides, is the point of least strength.

In cases of premature rupture of the sac the attention should be directed to the prevention of a tear of the cervix. Sometimes it is possible to disengage the occiput before the posterior lip slips over the face. In other words, the cervix should retract over the occiput first. This manipulation should be done between pains when the cervix is about tense.

When lacerations occur the author believes in immediate suturing, thereby closing an avenue of infection and leaving no tendency to subinvolution. The sutures in the repair of a lacerated cervix should be drawn more firmly than in any other operation on account of the

rapid involution of the cervix which will cause the sutures to loosen and fail to keep the parts in apposition.

The author says owing to the great advancement made in gynecology during the past ten years it has been determined that lacerations of the perineum play no small role in the causation of pathological conditions. The gradual dilatation of the perineum is as necessary as that of the cervix, if lacerations are to be avoided.

Old primiparae are more subject to suffer from trauma of this character. If in such cases the uterine contractions are very firm, it is well for the obstetrician to use preventative measures as are within his power. The author believes such women should be confined in the Sims' position, as it is much easier to control the advance of the head by pressure upon the occiput. The author says that the overdistention caused by the delivery of the head is almost certain to cause a firm contraction of the uterus, and if the obstetrician is not on the alert the perineum will be torn by the too rapid delivery of the shoulders. If it is evident that delivery can not be accomplished without laceration of the perineum, then episiotomy should be performed. Unilateral incisions for the enlargement of the outlet is much to be preferred to one that has been torn. Long pressure of the child's head upon the pelvic floor is liable to rupture the deep muscular structure and should be relieved by the application of the forceps.

HARRY M. THOMAS, M.D.

Lithemia and Diseases of Women.—In an article by Dr. Mann, referred to by the *International Medical Magazine (Med. Record)*, we are told that the urinary, alimentary, and genital organs situated in the female pelvis are intimately associated in function as well as in position. The relation of position may be demonstrated by the course of gonorrhea, which may infect the urinary tract, even as far as the kidney, and the rectum, as well as the genital canal. This is also true of septic disease, though to a less degree. Through the nervous and vascular connections, the secretions of the different glands found in or connected with these organs may be more or less reciprocally affected. The victims of morbid conditions depending on the close interdependence of function and disease in the nearly associated pelvic organs complain of many symptoms, subjective and objective. They tell us of pains and aches in various places, many of which we call reflex. They complain of menstrual disturbances, vaginal discharges, backaches and frontaches, troubles with the bladder and rectum. They suffer from insomnia and dyspepsia; and, above all and before all, they tell us that they are nervous. Often the spirits are depressed and there is sometimes a fear of impending insanity; headaches, especially occipital, and intercostal neuralgia are common. A physical examination often shows no serious lesion of the pelvic organs. An examination of the urine will give much information; usually the quantity is below the normal, the reaction excessively acid, and uric acid is present in abnormally large quantities.

At times the urine will be clear, limpid, and of low specific gravity. The blood also should be examined, for anemia is one of the most important associates or causes of excessive uric acid output. In cases presenting these combinations, the question to be decided is whether the trouble is primarily with the uterus and ovaries and all the rest reflex or secondary, or *vice versa*. It is possible to group such cases under the term lithemic or under the term uric acid diathesis; but the best plan is to consider them as cases of general disturbance of nutrition, and then we shall be forced to study each case to find out exactly the origin of the disturbance. The pelvic lesions may be the cause or they may be the result. We can get more help in understanding these cases by remembering the close relations which exist between the circulation of the pelvis and that of the liver; also by remembering the dependence of the kidneys upon the proper performance of the functions of the stomach and liver; and again by remembering the intimate nervous connection between the uterus and these other organs. If the trouble starts in the stomach from an error in diet, or from overwork or nervous strain, there result imperfect metabolism of the food products, the formation of poisonous substances, the imperfect action of the skin, kidneys, liver, and bowels, failure to excrete the toxins, and the production of an auto-intoxication resulting in nervous and functional disturbances. This train of events, slightly modified, may be due to an abnormal urine, to rectal disorder, or to primary uterine disorder. The special causes will be found in the climate, diet, social condition, the wear and tear, the hurry and rush, and the fatigues and strains of modern life.

Pyosalpinx of Subperitoneal Development.—Pretorius (*Belg. Med.; Brit. Med. Jour.*) relates the following case to show the importance of examining at once removed tumors before completing an operation. In November, 1898, he was called to a lady of 33, a nullipara, who complained of pains in the lower belly and obstinate constipation. The vulva hardly admitted two fingers; uterus small, and fixed in retro position. Slightly embossed tumors, the size of a large orange, both alike immovable, were on either side. The rectum was narrowed by the left tumor. Although total castration was indicated, the narrow vagina and great fixity of the tumors caused Pretorius to prefer laparotomy. The right appendages, easily removed, showed a polycystic tumor of the ovary and an apparently healthy oviduct. On the left side a polycystic tumor, rising from the true pelvis like a mushroom, was easily extirpated. The pelvic floor now showed some difference of level on the two sides, the left being less deep and flattened, its covering membrane smooth and shining. Palpation revealed nothing. The author then resolved to throw light on the matter by examining the left tumor, which he had not closely looked at. It had, however, accidentally fallen on the floor, and, not wishing to prolong the operation by disinfection of the

hands, he started instead to explore Douglas' pouch. This was found completely occluded, and the finger-nails alone could not free the womb from its posterior adhesions. Not wishing to use bistoury the author brought the operation to a close. Easy convalescence ensued. Preetorius then found that the right oviduct, despite its healthy aspect, contained pus, and that the left tumor was only a collection of ovarian cysts in which the tube and ovary were undiscoverable. He now awaited the return of the courses, which came on three weeks later, and further troubles; if, as was only too likely, the left tube should also have contained pus. The patient remained well a year, the rectum being set free and stools easy. In October, 1894, her condition was less satisfactory—urine turbid, containing pus in quantity, no tenesmus or pain on micturition. Through fear of an operation she escaped observation till January, 1895, when the author again saw her. He found her emaciated, and suffering from violent pains referred to the right of the anus. She confessed that in the interim another doctor had treated her with lavages for an affection of the bladder and kidneys. Preetorius had long known the true condition. There was an abscess of the left ovary, which had opened into the bladder; a second opening had occurred into the rectum, as shown by pus in the stools. A third perforation was imminent in the right perianal region. Free incision here caused about 200 gr. of odorless creamy pus to escape. A good result ensued, recovery being complete except for a perianal fistula, for which a piecemeal hysterectomy was performed with success.

OPHTHALMOLOGY.

A Case of Rhabdomyoma of the Eyelid.

—Our knowledge of the different forms of new growths occurring in the eyelids has been considerably enlarged within the last decade. The following case is, as far as I know and can find out, a totally new observation.

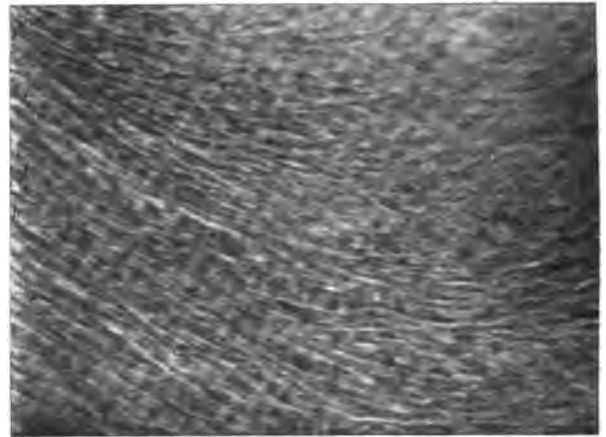
On January 2, 1896, a young man about 17 years old, presented himself at my clinic at the Beaumont Hospital Medical College. Dr. Jennings, my assistant, brought the patient to me for operation before the class, with the diagnosis of a large chalazion.

I found the left lower lid swollen, more particularly near the outer canthus, where the swelling was more prominent and harder. The inner side of the lid did not show the usual signs of a chalazion. The patient, and afterwards his mother, stated that they had noticed the lid becoming thicker for six weeks previously. There had at no time been any pain, neither spontaneously nor on pressure.

After having made the incision through the skin and palpebral muscle down to the surface of the tumor, I found that it extended all across the lid, tapering off towards the inner canthus. There was considerable bleeding after its removal.

The tumor had a whitish covering and felt elastic, yet harder than a chalazion usually does. These peculiarities prompted me to examine it histologically.

The bulk of the tumor consists of striated muscular tissue in all stages of its development. In some places there are bundles of old striated muscular fibers, mostly cut transversely which from the direction in which my sections are made, proves, that even these old muscular fibers are not fibers of the orbicularis palpebræ. Around these, going in all directions and meeting each other at all angles, and often running concentrically around a blood vessel, are innumerable bundles and tracks of younger muscular fibers, many of which are still single long spindles with a larger or smaller oval nucleus, and just forming their sarcolemma. The accompanying illustration is a photograph of one of these parts where the younger and youngest fibers predominate. Numerous round cells lie between the muscular fibers.



Embedded in this muscular tissue are a large number of foci of round cells, like small abscesses. These lie particularly in the neighborhood of large blood vessels.

There is not a trace of glandular tissue, nor did the tumor penetrate deeply into the tarsal tissue. The blood vessels are either filled with blood and distended, or obliterated by proliferation of their endothelium. On a great many of the smallest ones the muscular coat is also hypertrophied.

At first sight the abscess-like accumulations of round cells gave the impression of a sarcomatous growth; yet, on farther examination they can be considered only as aggregations of leukocytes. The character of the tumor I think, therefore, is a benign one. There is so far, at least, no sign of a recurrence, which, of course, is not proving anything.—ADOLF ALT, M.D., in *American Journal of Ophthalmology*.

The Recurrent Images Following Visual Impressions.—Bidwell (*Proceedings of the Royal Society*, lvi, No. 337, and *Ophth. Rev.*, Nov., 1894), records the order of the visual phenomena as noticed by himself (*N. Y. Med. Jour.*):

1. Immediately on the impact of the light, a sensa-

tion of luminosity was experienced, the intensity of which increased for about a sixtieth of a second; more rapidly toward the end of that period than at first.

2. Then ensued a sudden reaction, lasting also for about a sixtieth of a second, in virtue of which the retina became partially insensible to renewed or continuous luminous impressions. These two effects may be repeated in a diminished degree as often as three or four times.

3. The stage of fluctuation was succeeded by a sensation of steady luminosity, the intensity of which, however, was considerably below the mean of that experienced during the first sixtieth of a second.

4. After the external light had been shut off a sensation of diminishing luminosity continued for a short time, and was succeeded by a brief interval of darkness.

5. Then followed a sudden and clearly defined sensation of what might be called abnormal darkness, which lasted for about a sixtieth of a second and was followed by another interval of ordinary darkness.

6. Finally, in about four-fifths of a second after the extinction of external light there occurred another transient impression of luminosity, generally violet colored, after which the uniformity of the darkness remained undisturbed.

Bacteriological Investigations into the Etiology of Keratitis and Conjunctivitis Eczematosa and Corneal Ulcers.—Bach (*Arch. f. Ophthalm.*, xli, 2), draws the following conclusions from his investigations (*N. Y. Med. Jour.*):

1. Eczematous inflammations of the eye are caused by pyogenic micro-organisms, especially the staphylococcus pyogenes aureus.

2. In recent processes the particular microbe can generally be demonstrated.

3. By implantation of pyogenic bacteria typical artificial phytotenules can be produced in the cornea and conjunctiva.

4. The eczematous processes frequently coexisting in other parts of the body can be traced to the same cause.

5. Hence there is a direct connection between eczema of the eyes and of other parts of the body.

6. With a similar etiology of corneal ulcers, those ulcers situated in the central parts of the cornea are much more unfavorable in prognosis than those elsewhere, as there is almost always inflammation of the iris and the ciliary body present.

What is Indicated by the Tongue.—A white tongue indicates febrile disturbance; a brown, moist tongue—indigestion; a brown, dry tongue—depression, blood-poisoning, typhoid fever; a red, moist tongue—inflammatory fever; a red, glazed tongue—general fever, loss of digestion; a tremulous, moist, and flabby tongue—feebleness, nervousness; a glazed tongue with blue appearance—tertiary syphilis.—*Medical Age.*

NOTES AND ITEMS

A Worthy Example.—The physicians of London, Ontario, have entered into an agreement whereby one and all refuse to do contract lodge work any longer.

The Most Direct Route to Atlanta.—Physicians contemplating attending the meeting of the American Medical Association, which will be held at Atlanta, Ga., May 5-8, 1896, should call on Mr. Geo. E. Lary, the genial General Passenger Agent of the Cairo Short Line, Laclede Building, St. Louis, for information and rates. This line runs two through trains daily, leaving St. Louis at 7:50 P.M., and 7:36 A.M., arriving in Atlanta at 10:00 P.M., and 11:40 A.M., next day, respectively. The road is thoroughly equipped with modern chair cars and sleepers, and with a road bed unsurpassed will insure a pleasant and safe trip to the beautiful and historic city of Atlanta.

Use of Fluorspar in Roentgen Ray.—Prof. Winkelmann and Dr. Straubel of the University of Jena have succeeded in discovering a new method of photographing with Roentgen rays, by which the length of exposure is reduced from ten or fifteen minutes to only a few seconds. The method is based on a conversion of the X rays into rays of other undulations by fluorspar crystals. If the Roentgen rays are allowed to fall upon a photographic plate, the sensitized film of which is turned away from them and covered with fluorspar, the rays—after passing the film—will be absorbed by the fluorspar, and there undergo the modification spoken of. The new rays now act upon the photographic plate, and, indeed, much more strongly than did the Roentgen rays on passing through. As large fluorspar plates are to had with difficulty, powder of the same crystal was tried in their place, and as this succeeded, nothing stands in the way of the further application of the method. The new rays emitted by the fluorspar were minutely examined by the discoverers. They succeeded in determining the frangibility, and from this the length of the undulations. The rays lie far beyond the ultra violet end of the visible spectrum.

The Use of Antitoxin in London.—The report of the London Board of Metropolitan Asylums shows the results obtained in six hospitals in which antitoxin has been employed in the treatment of diphtheria. In 1894, before antitoxin was employed, there were 3,042 cases of diphtheria in the six hospital, and 902 of the patients died, representing a mortality of 29.6 per cent. In 1895, there were 3,529 cases and 796 deaths, representing a mortality of 22.5 per cent, or of 7.1 per cent below that of the previous year. The reduction must be fairly set down to the use of antitoxin, for there were no other changes in the treatment, the

average severity of the disease was about the same in the two years, while the proportion of juvenile patients, to whom the disease is most fatal, was somewhat larger in 1895 than in 1894. The new drug was not used in all the cases which came under treatment, but, as a rule, only in the severer cases. The lives preserved, therefore, were just those which were most likely to be lost. The results at the Northern Hospital in post-scarlatinal cases were more favorable still. In 1895 there were 119 cases and 4 deaths. In the three previous years there had been an aggregate of 119 cases and 75 deaths. The reduction in 1895 is ascribed by the medical superintendent wholly to the use of antitoxin, which caused the recovery of cases which would formerly have been regarded as hopeless. In order, however, to secure the full effect of the drug, it is necessary that it should be employed at an early stage of the disease. So administered, it served in 1895, to reduce mortality from 22.5 to 4.6 per cent in cases which came under treatment on the first day of the disease, and from 27 to 14.8 per cent in cases which came under treatment on the second day. In laryngeal and tracheotomy cases it has also been markedly efficacious.—*Information.*

Nervousness of Motormen.—Neurologists are watching with a considerable degree of interest a new expression of a nervous malady which has made itself manifest since the introduction of the Broadway cable cars and the Brooklyn trolley system. With the exception of Chicago, there are no other cities possessing anything like the street traffic of New York and where these methods of transportation are in operation. A nervous condition, not at all like the usual nervousness that is excited by great noise, confusion, or sudden danger, has developed itself in several gripmen employed on the Broadway road, and among the motormen employed on the Brooklyn trolley lines.

The constant lookout for collisions in the congested district below Canal street, in Broadway, keeps the gripman in a state of extreme nervous tension from the time he goes on his car until he goes off. Besides keeping an eye open for visible trouble, his mind is fixed on possibilities that are under his feet. He does not know just where there is to be a pooling of interests between the grip and a broken strand in the cable, which will whisk him along the street, crashing into trucks, smashing wagons, frightening pedestrians and exasperating policemen. This continuous strain results, first, in sleeplessness, then a falling off in appetite and extreme irritability; after this a tremor in the facial muscles. At the expiration of a week, says the *Medical Examiner*, these symptoms disappeared, and may not return for ten days, but thereafter the intervals are regular and are about one week apart—seven days in a state of nervous terror and seven days in a normal, apparently healthy condition. These exhibitions apply only to men of nervous, nervo-sanguine, and bilious temperaments. While present in other temperaments, they are not pronounced.—*Scientific American.*

PUBLISHER'S DEPARTMENT.

ILLINOIS CENTRAL HOSPITAL FOR THE INSANE.—I have repeatedly prescribed antikamnia for various neuroses with good effect. Recently prescribed it in a case of croupous enteritis, patient adult, highly nervous, and during continuance of paroxysms, and preceding it, is nervous and hypochondriacal, suffering intense pain. The case is one of long standing, and one where opium was objectionable, because of the tendency toward forming opium habit. However, opium has been used, but the effect of antikamnia has been more magical, more persistent, and followed by no digestive disturbance, as has been the case when opium was used.

My directions have been to use antikamnia whenever a paroxysm occurs. Have also found it invincible in protracted neuralgia.

FRANK P. NORBURY, M.D.

Jacksonville, Ill., September 19, 1891.

IN HIS PALMY DAYS JOHN BRIGHT was fond of expatiating on the wonderful growth of the United States in material resources, and of demonstrating that its wealth was multiplying by leaps and bounds. We are reminded of the orator's favorite theme by the announcement that Parke, Davis & Co. have opened two new branch houses to satisfy the rapidly growing demand for their preparations—one in New Orleans and another in Baltimore—and by the receipt of their '96 price list, comprising over six thousand items and twenty-nine distinct lines of preparations! It is amazing, how this house has grown within the past fifteen years. It has been erecting laboratories by the acre, multiplying its output of pharmaceutical preparations by the ton!

The ground for this amazing prosperity is not hard to find—scrupulous integrity, dignified, honorable business methods, and, above all, a strenuous desire to treat professional men in accordance with professional methods. All the world knows that the label of this firm is a warrant of purity, activity and precision in the contents of the container, and the physician realizes that in his grim battle with disease he can depend upon Parke, Davis & Co.'s preparations every time!

CONTINUED COMPLIMENT is paid M. Mariani for the maintained high standard and excellence of his preparations, by the numerous honorable mentions and indorsements by the members of the medical profession and those who had occasion to use his Coca preparations during the past thirty-five years.

Among the recent awards we note, Gold and Silver Medal from the Academie Nationale de France; Gold Medal and a Grand Diploma of Honor from the Wine Exhibit of Bordeaux, France; Gold Medal and a Diploma of Honor at the Hygienic Exhibit at Amsterdam, Holland, and Mariani was awarded the Gold Medal and Diploma at Leamington, England, the jury surnaming Vin Mariani "*Wine for Athletes.*"

Professional bicyclists and athletes, after careful trials of numerous tonic preparations, invariably give the preference to Vin Mariani. Messrs. Dubois, Lucas, Vigneaux, Echalle, Andre Henry, Imans, Buffel, and many others, have attested to the vast superiority of Vin Mariani over all other tonics. In the recent long distance bicycle races in France, England and Bruxelles the winners used Vin Mariani, as reported in the daily press.

BRUXELLES, Aug. 28, 1896.

"I, the undersigned, Andre Henry, winner of the bicycle race, August 26, Paris to Dinant, without dismounting from the wheel during thirteen hours, declare having partaken of nothing but Vin Mariani to sustain my force.

"In addition will state that, after the race, I felt absolutely no fatigue nor any of the usually extreme lassitude such as I had felt after the Paris-Brussels and other races, when I had not used Vin Mariani. For my coming Belgium races I certainly will use Mariani's marvelous tonic.

[Signed]

ANDRE HENRY."

MEDICAL REVIEW,

A WEEKLY JOURNAL OF MEDICINE AND SURGERY.

VOL. XXXIII.

ST. LOUIS, MAY 2, 1896.

NO. 18

ORIGINAL ARTICLES

An Unusual Case of Erysipelas.

BY L. T. RIESMEYER, M.D., ST. LOUIS.

Some months ago I was called to see Mr. N., 36 years of age, who complained of intense headache, particularly on the right side, difficulty of swallowing, pain upon opening his mouth, and loss of appetite. Patient presented a drowsy, somnolent appearance and at first sight made the impression of a person suffering from a high fever. Upon examination his pharynx presented a deep red color and the opening of the mouth seemed to be accompanied by much pain. The submaxillary and cervical glands were painful upon palpation, and more so on the right, than on the left side. Temperature 103.5° F., pulse 110. The most painful part upon palpation was the right mastoid process, which was swollen, edematous and appeared red and hyperemic. The left mastoid process was also tender upon pressure, more so than the surrounding tissues, but was neither swollen nor very painful, like the right one. The fact that both mastoid processes were the tenderest spots upon pressure, the enlarged submaxillary and cervical glands, the rapid pulse, the high fever and the somnolent condition of the patient suggested an intense inflammatory infection, having its origin in the pharynx and extending on both sides along the Eustachian tubes, the tympanum and the mastoid cells. The drowsiness of the patient and the intense local pain over the right mastoid process appeared to indicate a prompt surgical interference—the trephining of the mastoid antrum and opening of the mastoid cell. In the afternoon of the same day I made, under the usual antiseptic precautions, a large incision over the mastoid process down to the bone, being assisted by Dr. Pollman, of this city. The wound bled profusely and a stream of pus escaped from beneath the galea aponeurotica. The mastoid cells were chiseled open, but the opening of the antrum did not—judging from the healthy appearance of the osseous tissue—appear to be necessary.

The wound was thoroughly irrigated with a 2½ per cent solution of carbolic acid, tamponed with carbolized gauze and the surrounding tissues, as well as the left mastoid process and its surroundings, covered with carbolized moist compresses, fixed by a gauze bandage.

The internal medication consisted in the administration of ten grains of benzoate of sodium every two hours. Removing the dressing the next day about one-half teaspoonful of pus was attached to the gauze tampon, the wound presenting no unusual or noteworthy appearance. The subjective condition of the patient was improved, the headache and drowsiness being less intense. Upon close examination of the mastoid processes and their adjoining tissues a redness of the skin with a zig-zag border, characteristic of an erysipelatous invasion of the skin was clearly discernable and the diagnosis, which a day before was uncertain, was now exceedingly plain. The erysipelatous process, beginning in the mouth and pharynx, extended along the Eustachian tubes, making its exit at the mastoid processes and thence invading the surrounding cutaneous tissue. An application of ichthyol with a camel hair brush was made over the erysipelatous area and a little beyond its border. Internally the treatment was changed to a tonic consisting of quinia and iron.

From this time on the disease took the usual course of an erysipelas of the skin. The healing of the wound was uneventful and, although the erysipelas kept on spreading for a few days involving the neck and part of the scalp and face, the patient was well enough to leave the bed within twelve days after the operation. The wound healing kindly by granulation.

Although erysipelas of the face and head usually starts in the skin, particularly that of the nose, the mucous membranes are not infrequently the primary seat of infection.

The observation of the extension of erysipelas from the pharynx toward the ear is not new. The advent of an erysipelas may not infrequently be foretold, as Raynaud has pointed out, by the swelling of the lachrymal ducts, in which case the starting point of the disease is the mucous membrane of the nose.

Gangrenous and diphtheritic sore throats have been reported as a consequence of an erysipelatous invasion of the pharyngeal mucous membrane. Vesicles may form on the mucous membrane evacuating a serous or sero-purulent fluid, leaving behind white or whitish-yellow patches, which are readily removed. In the extension of the inflammation to the tongue this organ may become much swollen and discolored, and in a malignant epidemic which occurred in this country in 1842, the enormous swelling of the tongue gave rise to the name of the epidemic—"black-tongue."

Erysipelas of the pharynx may also make its way along the Eustachian tube to the external auditory canal and thence to the skin around the ear and to the scalp.

The mucous membrane may also be invaded secondarily—in the opposite direction from the face toward the mouth, nose, auditory canal or lachrymal duct. Erysipelas of the pharynx may also extend downward to the glottis, causing an edema of the glottis, which complication is nearly always fatal. It may also extend into the lungs, when all the symptoms of a pneumonia may develop. The erysipelatous pneumonia, or pneumonia migrans begins insidiously, involving a circumscribed area, not an entire lobe, and moving from place to place, resolution taking place at one point while a new area is involved, the entire lung or even both lungs may be affected.

A few years ago the wife of a prominent St. Louis physician acquired an internal wandering erysipelas in which nearly all the internal organs of the body were successively affected.

As a local treatment the painting of the affected area with ichthyol has, in my hands, given the best results. A mixture of ichthyol, alcohol and collodion is an excellent external remedy, the collodion effecting, by its contraction upon drying, a local anemia in consequence of a contraction of the capillaries. The application of ointments, unless they are made exceedingly gentle—without much pressure or friction in rubbing—may do harm by favoring, in consequence of the pressure applied, a displacement of the streptococci from the lymph spaces and lymphatic vessels of the skin into the deeper tissues.

The question of the identity of the etiological factor in erysipelas, the streptococcus erysipelatis, with the pyogenic streptococcus, is not a settled one. Most bacteriologists claim that the two microorganisms are identical, producing, however, different effects according to the peculiarities of the soil upon which they proliferate. According to these authors it would appear to be a case of a change of biological characteristics in consequence of changed surroundings. But some bacteriologists still adhere to the theory that the two forms of streptococci, differing in size and effect, are two distinct microorganisms. The streptococcus erysipelatis never producing pus in the animal experiment, while the pyogenic streptococcus always causes suppuration if the usual precautions are taken in the experiment.

If the latter view should be the correct one, there must have been in our case a mixed infection which, considering the starting point of the process, the pharynx, is exceedingly probable. Whether all suppurative forms of erysipelas must be explained by a mixed infection, or whether the streptococcus erysipelatis alone may cause suppuration, *i. e.*, is identical with the streptococcus pyogenes, as the majority of bacteriologists claim, must be cleared up by additional unequivocal experiments and observations.

MEDICAL REVIEW.

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PUBLISHED UNDER THE AUSPICES OF THE
MEDICAL REVIEW ASSOCIATION

BY O. H. DREYER.

YEARLY SUBSCRIPTION, \$3.50. SINGLE COPIES, 10 Cents.

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All letters whether intended for publication or not must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of the meetings of their respective societies, and of officers elected.

Members of the profession who send us information of matters of general interest to our readers will be considered as doing them and us a favor, and we shall take pleasure in inserting the substance of such communications.

Communications, Medical Books for review, and all letters containing business communications or referring to the publication, subscription, or advertising department of the REVIEW, must be addressed to O. H. DREYER, Publisher 112 N. 4th Street, St. Louis.

Entered at the St. Louis Postoffice as Second-Class Matter.

The Newer Methods of Operating for Carcinoma Mammæ.

Among the microscopic investigations in the realm of surgical pathology which have been followed by decided therapeutic successes and improvement of technique are the researches of Heidenhain. While long before the publication of these investigations it was a generally accepted fact that in all carcinomatous tumors of the breast a radical operation including the removal of the axillary fat of the affected side was advisable in order to prevent a local recurrence or metastasis in the axillary glands, the exact scientific boundaries for the surgical removal of all tissues suspected of carcinomatous invasion had not been determined. In cases where the neoplasm was freely movable over the fascia covering the pectoralis muscle the latter with its fascia was allowed to remain.

By a series of sections of carcinomata mammae Heidenhain found that in a comparatively early stage of the disease the carcinomatous process had infected the fascia pectoralis along the lymphatic vessels running

from the gland toward the fascia. These lymphatic vessels which accompany the blood-vessels become impacted with carcinomatous cells long before there is the slightest adhesion of the gland to the fascia. The pectoralis muscle itself, however, becomes diseased at a very late stage of the disease, which is explained by the fact that the lymph current passes from the fascia pectoralis toward the axillary glands and from the pectoralis muscle toward the fascia underlying the gland—directly in lean persons, and separated by a larger or smaller amount of adipose tissue in corpulent individuals. The latter phenomenon is demonstrated by the difficulty of injecting the lymphatics of the pectoralis muscle in the direction from the fascia toward the muscle and the readiness with which this may be done in the opposite direction—from the muscle toward the fascia. Heidenhain has shown that in cases where an attempt was made to dissect the fascia pectoralis from the muscle particles of fascia were apt to remain, although they might not be demonstrable except by a microscopic examination. Based upon these facts the following operative procedure was advocated by Heidenhain. In all cases of carcinoma of the mammary gland where it is freely movable over the fascia pectoralis the gland with its underlying fascia and including a superficial layer of the pectoris muscle is to be removed, together, of course, with the axillary glands and fat. In cases where the fascia is infiltrated with carcinomatous nodules the whole muscular tissue underlying the gland, down to the ribs, must be taken away.

Acting upon these suggestions Halstedt, of the Johns Hopkins University, has obtained most gratifying results. Dr. Rotter, of Berlin, has modified the method of operating as proposed by Heidenhain in the following manner. He does not consider the taking away of a superficial layer of muscular tissue with the fascia pectoralis as practicable, because, even then, by accidentally cutting through the muscle—which, as in the female it is in its fanlike expansion very thin, may easily occur—a small particle of fascia might remain, and consequently advises in all cases the removal of muscular tissue underlying the gland up to a little outside of its boundaries, extending above as far as the second rib.

Rotter claims that by taking away the whole instead of part of the muscle where it is covered by the gland the danger of interfering with the function of the arm is no greater than where only a superficial layer of muscular tissue is taken away. The operation is simplified by the entire removal of the lower portion of the muscle, because fewer arteries are to be tied and the removal of axillary glands and fatty tissue is simplified and the wound surface more readily covered by the remaining skin. Although in those cases in which the muscle is not invaded by the carcinomatous process, Rotter takes away more tissue than Heidenhain proposed, he does the operation less radically than that investigator advised in those cases where the muscular tissue has become invaded by the neoplasm. The reason for removing in these cases only the whole thickness

of the sternal portion of the pectoralis muscle and not the entire muscle, had its origin in an accidental observation of Rotter who in two cases where, after the completion of the operation, the muscular tissue had been found infiltrated, observed no local recurrence for 18 resp. fourteen months after the operation. On the other hand, in one case a local recurrence took place because a part of the gland had been left behind where it overlies the attachment of the serratus magnus and external oblique and the author intends, therefore, to remove in future cases also the fascia of the upper portion of these muscles a little beyond the boundary of the mammary gland. Where the axillary glands adhere to the pectoralis minor that muscle is to be completely removed. The total removal of the pectoralis major is particularly indicated where the infraclavicular glands are enlarged and consequently to be removed. The removal of the supraclavicular glands Rotter does not advocate in the same degree as Halstedt and Meyer of this country, but wants them removed only when they are palpably enlarged or when the highest axillary glands resp. infraclavicular glands are enlarged, when both the supra- and infraclavicular fossæ must be thoroughly emptied.

Upon the importance of the extension of the carcinomatous tissue toward and along the skin more stress is placed by Rotter than by Heidenhain who holds that recurrences in the skin are rare and nearly always take place in the deeper tissues. Rotter advocates the removal of as large or nearly as large an area as that of the mammary gland, it being possible, in case of the removal of the pectoralis muscle, to cover most of the large defect, as the skin, which otherwise must be used in closing the axilla, is at the surgeon's disposal for covering the wound of the thorax.

A third factor in Rotter's method of operating is the attempt of preventing a re-infection of the wound by removing the whole tissue in one piece, which, however, is not original with him. In an extensive article in the *Berliner Klin. Wochenschrift*, Nos. 4 and 5, 1896, where Rotter has published the results of Halstedt with the operation proposed by Heidenhain and also those obtained by his own (Rotter's) modification of the operation. In selecting only operable and as much as possible parallel cases the author arrives at the conclusion that among the cases operated by Halstedt according to Heidenhain's suggestion 19 per cent (7 out of 32 cases), among his own, operated according to the above delineated modification, 8 per cent (2 out of 27 cases), local recurrences were observed.

In cases operated by the following representative surgeons: Koenig, Bergmann, Kroenlein and Kuester, where total extirpation of mammary gland with removal of axillary glands and fat was done, 43-59 per cent local recurrences took place.

Willy Meyer, of New York, has also operated according to Heidenhain's suggestions, but his reported cases, six in number, are too few to be made use of, as Rotter states, for statistical purposes.

This subject is of much practical and scientific inter

est and it is to be expected that surgeons and histologists will be active in determining the possibility of a cure of cancer of the breast by a sufficiently early as well as radical operation. In the same degree as it will be possible to determine the probable extent of neoplastic infiltration and the exact extent to which tissues must be removed to prevent a recurrence, may a positive cure of carcinoma by operative measures be expected. Internal metastases, existing before the operation, can, of course, not be controlled, and such metastases, although their occurrences may be rare, will, nevertheless, always have to be taken into consideration when a radical cure is anticipated.

Microscopical Examinations and Surgical Diagnosis.

We have on various occasions editorially called attention to the erroneous idea of some surgeons, and by no means obscure ones only, that a superficial piece of tissue, such, for instance, as is obtained by curetting, is, as a rule, not sufficient in doubtful cases of deciding as to the exact character of a growth or tumor for practical purposes. The mistakes made in examinations under such unfavorable conditions are too numerous, as every experienced surgeon has occasion to observe, to justify the encouragement of the microscopic examinations of shreds of tissue for the purpose of clearing up a doubtful macroscopic diagnosis.

Almost every busy surgeon has in his own practice observed tumors which were microscopically diagnosed as sarcomata, but which later proved to be the result of a syphilitic infection and recovered under an abundant administration of iodides and mercury.

Pathologists should insist upon being furnished with pieces of tissue which have been properly preserved, are of sufficient size, and, moreover, are accompanied by all obtainable anamnestic data. With the growth of a better understanding of what the microscope can do the appreciation of the instrument for the purpose of diagnosis will gradually be developed until it has found its proper level.

* *

That not only some of the Western doctors now and then have to be reminded of what has above been pointed out, is evidenced by the fact that the *Medical Record* of April 11, calls attention to the same subject in referring to a statement by Dr. Senn in a recent work on tumors, "that the microscope is not so serviceable in diagnosing tumors as many suppose, citing as an instance the late Emperor Frederick of Germany. Small pieces of tumor or scrapings of tissue should not be sent to the pathologist simply to see what the microscope will reveal or what the pathologist knows. The object is to obtain a correct diagnosis, and to this end as large a piece of tumor as possible should be sent for examination. It should be accompanied with a history of the case and all other points, such as site, character of growth, etc. In this way the microscope usually de-

cides when the appearances to the naked eye throw doubt on the character of the tumor."

In Memorium.

The Faculty of the Missouri Medical College passed the following resolutions in memory of Dr. C. O. Curtman:

It is with profound regret that the colleagues of Prof. Charles O. Curtman, Professor of Chemistry in the Missouri Medical College, have learned of his recent and unexpected death.

For the past thirty years Dr. Curtman has been a teacher in this College. His rare natural talents, his very exceptional learning and his great ability as a teacher, in conjunction with his natural patience and amiability of character, have added much to the interest of medical education. We feel that he conducted in a most marked degree to the success of this institution of learning.

Dr. Curtman was recognized everywhere, both in this country and abroad, as a most eminent authority in the science of chemistry. He was a prolific writer, as well as an indefatigable worker, and his many contributions on theoretical and practical chemistry have materially assisted in the advancement of his chosen field of activity; therefore be it

Resolved, That in the death of Prof. Charles O. Curtman the Missouri Medical College has met with an irreparable loss, and the medical and pharmaceutical professions at large have been deprived of a faithful and diligent worker, and the community a highly valued citizen; be it further

Resolved, That a blank page in our record books be inscribed to the memory of Prof. Charles Otto Curtman, and that the Faculty of this institution attend the obsequies of the deceased; be it further

Resolved, That a copy of these resolutions and assurances of our profound sympathy be transmitted to the bereaved family of our late colleague.

Meeting of Railway Surgeons.

The first meeting of the National Association of Railway Surgeons after its organization in 1888 was held in St. Louis. Seven years have elapsed, and the Association was again here this week. Of the 1200 members fully half were in the city. They represent about every section of this country and a considerable portion of Canada. Although its original name has been retained, the Association has become international in character.

The Convention was opened by Dr. W. B. Outten, Chairman of the local Committee of Arrangements. Health Commissioner Starkloff welcomed the visitors to St. Louis in a brief address. Dr. F. J. Lutz replied in behalf of the visitors.

Many valuable papers of vital interest on railway surgery were read and discussed by some of the leading members of the profession.

BOOK : REVIEWS

Books reviewed in this column may be obtained, post-paid, by addressing the publisher of this journal, and remitting the quoted price.

Suggestive Therapeutics in Psychopathia Sexualis; with Especial Reference to Contrary Sexual Instinct. By Dr. A. von SCHRENBOK-NOTZING (Munich, Germany). Authorized Translation from the German by CHARLES GILBERT CHADDOCK, M.D., Professor of Diseases of the Nervous System, Marion Sims College of Medicine, St. Louis; Member of the American Medical Psychological Association; Attending Neurologist to Rebekkah Hospital, St. Louis, Mo., etc. One Volume, Royal Octavo, 325 pages. Extra Cloth, \$2.50 net; Sheep, \$3.50 net. Sold only by subscription to the medical profession exclusively. Philadelphia: The F. A. Davis Company.

That in all psychopathic conditions the treatment by some form of suggestion plays a most important role is a well established observation. The extent to which such treatment is applicable in psychopathia sexualis the author of this work has pointed out by cases from his own practice and that of other neurologists. The book is written in strictly technical language as it is intended for physicians only; this, considering the delicacy of the subjects treated in the work, is a most commendable and necessary feature of treatises of this nature. The views of the author with reference to treatment vary materially from those held by Krafft-Ebing and, being based upon practical observation, form a valuable contribution to the literature upon suggestive therapeutics. The work is a most interesting and instructive one and deserves to be read by every physician.

Transactions of the Antiseptic Club. Reported by ALBERT ABRAMS, a Member of the San Francisco Medical Profession. Illustrated. New York: E. B. Treat; Chicago: R. C. Treat; Boston: J. Q. Adams & Co.; New Orleans: N. D. McDonald; Cincinnati: John P. Hobart; San Francisco: Johnson & Enigh. 1895. Price, \$1.75.

In this work of wit, humor and sarcasm, the author manifests a keen perception of some of the ludicrous and reprehensible characteristics of the medical profession, chastizing them in a humorous, but good-natured and unoffending manner. The book abounds with humorous personification, wit and humor on every page. It will be greatly enjoyed by every reader who is acquainted with modern conditions in the medical profession and prove an excellent antidote to hypochondriasis.

The illustrations are in harmony with the humorous nature of the work, which we most cheerfully recommend to our readers.

The International Medical Annual and Practitioners' Index. A Work of Reference for Medical Practitioners. 1895. Thirteenth Year. New York and Chicago: E. B. Treat. Price, \$2.75.

This useful work is well known to the medical profession for its excellent qualities. It is a careful digest of whatever is of most practical importance in medical literature. By a careful perusal of this Annual the busy practitioner will in a short time acquire a knowledge of the advancement in medical science during the respective year.

The list of contributors guarantees the best quality of reading matter as well as a careful discrimination in what is of real practical value. The language is clear and concise and the illustrations very instructive. It is a book which should be contained in every physician's library and which is above all appreciated by general practitioners.

Dame Fortune Smiled: The Doctor's Story. Boston, Mass.: The Arena Publishing Company, Copley Square. Price, Cloth, \$1.25; Paper, 50 cents.

This story is a retrospect from the year 1900. The narrative is simple and makes no pretense of literary excellence. The points, however, attract and hold the attention. The doctor knows what he desires to say and he says just that without wearisome details. His aim is to show the reasonableness of giving during life. The idea is apparently suggested by the failure of several millionaires in securing to the public the enjoyment and use of the large sums they had intended for the amelioration of the condition of the masses. The author teaches that the intense life of those who organize and carry through great speculative ventures is very exhaustive and provocative of nervous prostration; that when a man has acquired a fortune he should retire from "the Street" and devote at least a portion of his time and of his wealth to the betterment of the community in which he lives; that the pleasure experienced in giving and the hearty expressions of gratitude from the recipients of his benefactions will have a tendency to promote health and so prolong life. The doctor's success in restoring to health several invalid millionaires and in leading them to adopt his beneficent views is as phenomenal as the sagacity and address whereby he so skillfully accomplishes his purpose. This volume presents, it is believed, a practical solution of the problem that confronts those who regard their great wealth as a public trust. It suggests to overworked men and women who are struggling with this world's problems the correct and feasible plan for the equalization of capital with labor for the moral and social benefit of the masses. Incidental mention is made of the use of mental suggestion as a therapeutic agent and running through the story are valuable medical suggestions in regard to preventive medicine for those who work under great nervous strain.

TRANSLATIONS.

BY EDGAR THOMPSON, A M., M.D.

Diabetic Coma.—Coma is the most frequent cause of death in diabetes (*L'Union Med.*, April 4, '96). It is especially liable to occur in those cases prone to nervous accidents. Diabetic infants always succumb to coma. The innumerable causes of diabetic coma are various, but according to M. Richardiere, great muscular fatigue, mental overwork, and active emotions are precipitating causes. The prolonged use of morphine can induce the state of coma in a diabetic. A sudden change of diet, especially from a vegetable to a meat regime, or a failure to drink the accustomed amount of water may be determining causes. Frequently no cause can be ascertained and the outset of the coma can not be foretold, and it may be said to be always impending.

The coma may supervene without any warning symptom, yet there is usually a more or less prolonged prodromal state of somnolence, intellectual apathy or there may be considerable nervous agitation. But the most important precursory sign is the urinary modification which is characterized in a great majority of cases by a great diminution in the quantity of the urine without any proportionate decrease of the glycose. Acetone can be detected in the urine several days before coma occurs. The acetone gives to the breath an odor of chloroform. Digestive troubles—vomiting and diarrhea, are frequently noticed.

The coma is profound. Intelligence is abolished. It is impossible to produce even a momentary resuscitation. The reflex sensibility of the skin is preserved for the patient will manifest responsive symptoms of pain when the skin is pinched. The coma is complete, in fact, without any paralysis of sensation or motility. The temperature and pulse is sensibly lowered. The respiratory movements are characteristic. The inspirations are extremely long and deep while the expirations are short and abortive. This prolongation of inspiration is a nervous phenomena and is a very constant sign in diabetic coma. The author places confidence in the odor of chloroform in the breath as a diagnostic sign.

The pathology of this condition is not clear. The post-mortem section does not reveal any marked evidences of disease. Saunders and Hamilton have observed fat emboli in the lungs and kidneys and these authors have founded a theory on this fact.

The frequency of a hyaline degeneration of the renal epithelium in diabetes has led other observers to adopt a uremic theory or that the coma is one of the manifestations of uremia. The author objects to this theory because the epithelial degeneration is not a constant factor in diabetic coma.

The anatomical theories are insufficient to explain the condition and the real cause is an intoxication. The poison is not the sugar in the blood but it is some compound which is formed from the sugar. The coma may

be produced by a sudden liberation of a large quantity of this sugar derivative, or if its elimination is hindered by the coincident nephritis or a diminution of the polyuria.

While acetone is very often present in diabetic coma, yet it is not constant and the intoxicating body must be found elsewhere. Hypodermic injections of acetone will produce a toxic nephritis but with no symptoms resembling diabetic coma.

The true cause must, probably, be attributed to the acids resulting from an incomplete combustion of sugar. These acids are lactic, oxybutyric and diacetic, and their presence is responsible for the complex symptoms of diabetic coma. This theory also harmonizes with the fact that large doses of sodium bicarbonate have such a positive beneficial effect in the prodromal stage. The soda augments the alkalinity of the blood and acts as a simple chemical antidote by antagonizing and neutralizing the acids.

When the coma is established nothing can be done and the outcome is uniformly fatal. If treatment is instituted, however, in the prodromal stage and when acetone is first detected in the urine the results are more favorable. When the coma is menacing all azotic foods must be interdicted and a lactic regime must be adhered to. To prevent the advent of coma large doses of sodium bicarbonate gives flattering results.

Treatment of Diffuse Bronchitis in Children by Cold Baths.—M. Renant presented to the Academie of Medicine his observations on a large number of cases of bronchitis treated by cold baths (*La Revue Med.*). His experience has extended over ten years and he says he has never seen a simple case merge into capillary bronchitis under the cold bath treatment. It is important that the treatment be instituted early and thoroughly carried out. Such being the case the results will be very flattering.

The rectal temperature of the child should be taken every three hours, and if a temperature of 102.2° F. is registered the patient should be placed in a bath (at 100°) and allowed to remain seven or eight minutes. If the bath causes reflex excitation the head can be covered with a compress wrung from water which has the same temperature as the room. If the child is two or three years old it will be well to give it a very small amount of cognac while it is in the water. When the child is removed from the bath it must be wrapped in an absorbent cloth and placed in bed.

The author says that the fever will fall after the second or third bath and the bronchitis rapidly retrogrades. Sometimes a favorable turn is delayed but according to the author the ultimate results are good. The bronchitis will never become capillary. The baths should be systematically given and continued for several days after the bronchitis has ceased so as to diminish the danger of any complication—especially the extension of the bronchitis into a pneumonia.

It is well to re-enforce the baths with a general tonic treatment. Quinine has the best effect and it must always be administered in suppositories. One grain of the sulphate or bromohydrate of quinine is introduced in the rectum daily.

ABSTRACTS

MEDICINE.

Some Notes on the Artificial Feeding of Infants.—Dr. E. A. Lermite estimates that in general practice thirty-three per cent of the patients ministered to are infants (*Med. Times and Hospital Gazette*). When this fact is realized, and it is remembered what a vast proportion of the ailments to which infants are prone are due to bad feeding, it will be readily realized how important to the general practitioner is the question of how to feed the little patients.

At the outset, it may be laid down as a dictum that no food is so beneficial to an infant as its mother's milk, provided that the mother is healthy, and has a sufficient supply to fulfill the requirements of the child. It may be pointed out that, although the mother's milk is ample in quantity, it is often very poor in quality. It is under these circumstances, or in those cases where, for some reason, the mother is unable to feed her offspring, that we are compelled to resort to artificial feeding.

In selecting any food it is essential to bear in mind the peculiar digestive powers of an infant. Nature has supplied in human milk an animal food; man in resorting to "patent foods" almost invariably selects a vegetable diet. In connection with this point it may be well to recall the following facts:

1. In the new-born infant the only gland secreting ptyalin is the parotid.
2. The diastatic ferment is secreted by the submaxillary gland at the second month at the earliest.
3. Saliva begins to flow after the second month, but not to any considerable extent till after the eruption of the teeth.
4. The diastatic ferment of the pancreas is not fully active till the child has reached the age of one year.

Briefly, to give an infant, prior to the development of the diastatic ferments, foods in which the carbohydrate is in the form of starch, is to starve that infant. As well might an adult attempt to subsist on powdered brickdust. The ultimate effect, if the effort were persevered in, would be similar in both cases—wasting and death.

In the following lines it is proposed to state the details of the artificial feeding of infants as tersely as possible, and to discuss some of the means at our disposal.

1. Asses' milk is one of the best substitutes for human. Its qualities may be summed up as follows:

(a) It is much weaker in every ingredient, except sugar, than human milk.

(b) It is of an exceedingly fine curd, and, therefore, easily digested.

(c) It is somewhat laxative.

(d) It would require twice as much in quantity to make it equivalent, as a nutritive, to human milk, and is not suitable for more than a few months on this account.

2. Cow's milk: For infants under one month, in order to prevent the formation of massive, indigestible curds in the stomach, cows' milk requires diluting with twice its quantity of water. In this diluted form, not less than sixty ounces must be taken in order to supply the nutriment contained in twelve ounces of human milk. It is true that infants will thrive for a time on twelve ounces daily of this mixture of milk and water, sweetened with a little sugar.

Should the infant be unable to tolerate the milk (and in some cases it will be found that cow's milk, however much diluted, will be rejected, or, if retained, will cause colic and diarrhea) the following means may be adopted to render the milk more easily digested:

1. Peptonized or humanized milk may be given.
2. Three grains of the bicarbonate of soda added to each ounce of milk.
3. Barley water and milk given in equal parts.
4. Lime water and milk in equal proportions.

It may be pointed out that, inasmuch as lime water contains only one-half grain to the ounce to produce the same antacid effect as three grains of bicarbonate of soda, it would take two ounces of lime water. The saccharated lime water is much stronger.

Peptonized cows' milk is prepared in the following way: "Put the milk or milk and water into a saucepan over a spirit lamp. When the temperature reaches 140° (as shown by the thermometer) blow out the lamp and stir up with the milk a good pinch of bicarbonate of soda and Benger's solution of pancreatin in the proportion of 14 minims to each ounce of milk. Let the pan stand *uncovered* for twenty minutes."

Some mention should be made of pancreatized or predigested foods. In these starch is converted into sugar, proteids into peptones, and fats are emulsified. To sum them up briefly, they possess the following advantages, viz.:

1. They possess the essential animal element when given with milk.
2. They are highly nutritious and easily digested.
3. They are an excellent form of nourishment for an invalid or weakened stomach.

They have the following disadvantages in common:

1. Total absence of the anti scorbutic element.
2. Sooner or later under their use the stomach will become demoralized. Their use should be strictly limited, and a gradual return made to an ordinary diet. Several cases have been reported where scurvy has supervened not only on a diet of peptonized milk contin-

ued for four to five months, but on pancreatized farinaceous foods made with milk.

In conclusion, there are two golden rules which should be constantly borne in mind, namely:

1. The child should be fed regularly.
2. Every meal should have the same composition.

Changes in the Viscera Resulting from Chronic Malaria.—Dr. L. F. Childe has extensively studied the changes produced in the organs by chronic malaria and he finds that whilst all the organs have been examined, characteristic effects due to long continued malarial poisoning have mainly been observed only in the liver, spleen and kidneys (*Indian Med. Surg. Rev.*). These effects are of two kinds—pigmentary and cirrhotic; in the former black and yellow pigment is found distributed through the organ, whilst in the latter the organ presents a thickening of its stroma and a growth of new connective tissue; and in each organ the pigmentary changes are mainly found in the less chronic, and the cirrhotic in the more chronic cases.

SPLEEN.—The pigmented spleen of chronic malaria is large and its capsule a little thickened; its consistence is rather firm and its color are seen to be somewhat thickened; the vessels are dilated and their walls thickened, the pigment both black and yellow, is present. The pigment is in granules of various sizes, either separate or collected into masses, and is found scattered through the splenic pulp as well as in the trabeculæ and thick walls of the vessels.

The pigment is doubtless derived from the blood and is said to result from the destructive action of the hematozoon malaria upon the red corpuscles; if this is so, it must contain iron, but it is a curious fact that the pigment does not give the ordinary chemical tests for iron. A specimen is shown of a pigmented liver which has been soaked in a solution of potassic ferro-cyanide and hydrochloric acid, but the pigment does not show the Prussian-blue reaction at all.

THE CIRRHOTIC SPLEEN of malaria is large, its capsule thick and with thick white fibrous patches on its surface, looking almost like cartilage; its substance is firm and its color light or dark-red. Under the microscope the same changes are seen as in the pigmented form, only here the thick capsule, trabeculæ and fibrous stroma, and the thick-walled dilated vessels are the main features, whilst the pigmentation is much less marked than in the previous form.

LIVER.—The pigmented malarial liver is large, more solid than normal, congested, and of a characteristic dark chocolate or slaty color, its capsule too is usually slightly thickened. Under the microscope the black pigment is easily seen in granules and masses, lying partly in the walls of the interlobular vessels and the connective tissue around them, and partly within the neighboring vessels in the periphery of the lobules. This arrangement of the black pigment just outside and in the circumference of the lobules, marks them out, so that each lobule seems surrounded by a more or less

complete black ring; moreover the black pigment is not found within the hepatic cells, but some of these cells contain yellow pigment. In addition two other changes are seen; there is some increase of connective tissue in the portal spaces, a condition in fact of early atrophic cirrhosis and some fatty infiltration of liver cells, these fatty cells being easily seen in the periphery of the lobules, lying close to the thickened and pigmented portal spaces.

THE CIRRHOTIC LIVER of malaria is attached by firm adhesion to neighboring parts, its capsule is greatly thickened: it is small, nodular on the surface, tough and in fact resembles the ordinary atrophic contracted liver. Under the microscope dense bands of the connective tissue are seen surrounding lobules or groups of lobules and the liver cells are atrophied and misshapen through pressure, but besides this some connective tissue can also be seen invading the lobules, so that it is not entirely confined to the portal spaces as in alcoholic cirrhosis. Pigment can be seen in the thick connective tissue, but there is far less of it than in the pigmented liver. With regard to the source of the pigment found in the liver, it exactly resembles the pigment in the spleen and is doubtless conveyed to the portal vein by the splenic vein, and so is distributed within the liver in the inter-lobular veins, and deposited in them and in the connective tissue of the portal spaces; so that the consequence is this—the red blood corpuscles are broken up in the spleen, their pigment is partly deposited there and partly conveyed to the liver, where it is carried to the terminal branches of the portal vein, and by the irritation of its presence causes a growth of connective tissue in the portal spaces; just as alcohol circulating through the same veins sets up an exactly similar growth. But there is still a point to be explained. Both in the liver and spleen, in the earlier cases there is much pigment and little cirrhosis whereas in the later cases there is much cirrhosis and little pigment and this difference is due to the condition of the blood, because as malaria becomes more chronic, the number of red corpuscles in the blood becomes greatly diminished, their destruction exceeding their regeneration; so that as the disease proceeds less pigment is elaborated in the spleen and consequently less is deposited in the liver. The author cites the following case which he believes to be an instance of malarial cirrhosis of the liver, spleen and kidneys.

E. P., a female, aged 40, has been living at Byulla for twenty years; does not drink and smoke, says, she has suffered from fever at intervals for many years, she has been in hospital many times for fever of a malarial type. For the last two years has had the present symptoms, viz, weakness, pains in bones, ascites, prominent veins over lower part of abdomen, contracted liver, enlarged spleen; also occasional diarrhea and lately from edema of feet and legs and scanty urine. Died May 28, 1893.

LIVER.—Dense adhesions to diaphragm, capsule thick and nodular, irregularities on surface; liver very small

squeezed up, its shape distorted and much fibrous tissue throughout it.

SPLEEN.—Large, firmly adherent to neighboring parts, much thickening of capsule, its substance generally firm and of fibrous appearance.

KIDNEYS.—Both had adherent capsules, and a rough granular surface, the cortex narrow, and substance tough.

The author mentions a difficulty one meets with in trying to show that malaria is a cause of atrophic cirrhosis of the liver, for this in fact is the main object of his paper and it is this: If a patient has atrophic cirrhosis of the liver due to alcohol, it is usual to find the spleen in early cases large from engorgement consequent on the portal obstruction, and in later cases large from chronic hypertrophy, with thick capsule, increased fibrous stroma, and in fact in a condition resembling the enlarged spleen of chronic malaria; on the other hand if one has chronic malaria with resulting atrophic cirrhosis of the liver, there will also be a similarly enlarged spleen; so that the primary splenic enlargement and secondary contracted liver of malaria may be mistaken for the primary contracted liver and secondary enlarged spleen of alcoholic cirrhosis. Here, for instance, are the liver and spleen of a chronic alcoholic patient. Of course, an exact history of either alcohol or malaria would clear up the diagnosis, but among hospital patients particularly it is most difficult to get a reliable history; on the one hand a man may be unwilling to admit that he has been addicted to drink, and on the other he may have had fever without paying much attention to it; for many patients seem to look upon fever as an ordinary accompaniment of their lives.

Cholagogues.—Stadelmann (*Berl. Klin. Woch.*, 1898, Nos. 9 and 10) bases his views on experiments upon dogs, in which a complete biliary fistula had been made and a portion of the choledochus resected between two ligatures. The secretion of the bile is found to proceed very irregularly, such variations being physiological. This is a fruitful source of error in drawing conclusions as to the action of cholagogues. Whether the results of experiments on animals are applicable to man is by no means certain and requires further investigation. From observations made upon men with biliary fistula the same variation in the secretion of bile has been noted as in animals. The author says that his experiments show that water does not act as a cholagogue, and that here the liver does not behave like the kidney. The good results obtained by the administration of large quantities of water in cholelithiasis, etc., requires some other explanation. The author divides the substances investigated by him into four classes: (1) Those which produce no cholagogue action: (a) alkalies such as sodic bicarbonate, chloride and sulphate, artificial Carlsbad salts, etc., especially belong to this class; (b) purgatives, especially drastics, including podophyllin, scammony, calomel, rhubarb, produce no definite increase; (c) alcohol, olive oil bring about (if anything) a

decrease. (2) Agents which distinctly diminish the secretion of bile, such as pilocarpin, atropin. (3) Agents having a doubtful cholagogue action; antipyrin, antifebrin belong to this category. (4) Agents which have a marked cholagogue action. Sodio salicylate in medium doses is a powerful cholagogue, but bile and bile salts are by far the most certain cholagogues. In dogs glycocholic acts more powerfully than taurocholic acid. Both the water and the dissolved constituents of the bile are thus increased, whereas salicylate of sodium only increases the water and not the acids. The two diseases in which cholagogues are used are cholelithiasis and catarrhal jaundice. The author thinks that cholagogues can only be useful when the stone situated in the cystic duct can be forced back into the gall bladder. When the stone is in the common bile duct nothing can be done by cholagogues in the way of helping it to pass along the duct. Thus he does not think that cholagogues can increase the pressure of bile and so remove the obstruction due to the stone, etc. The author then discusses the effect obtained by the use of alkaline waters, such as those of Carlsbad, but without arriving at any definite explanation. In the discussion, in which Rosenberg, Senator, Ewald took part, the conclusions advanced by Stadelmann were not at all accepted. All these authorities agreed as to the undoubted clinical value of cholagogues. In reply, Stadelmann maintained that the good effects obtained by alkalies could not be attributed to any cholagogue action.—*Brit. Med. Jour.*

Mercury in Severe Anemia.—Gennaro de Francesco (*Gazzetta degli Ospedali*, Feb. 4, 1896) gives an account of three cases of severe anemia in which he obtained extremely good results by hypodermic injection of bichloride of mercury and bichloride of quinine. The first case was that of a girl aged 13. Her family history was good, there being no alcoholism or syphilitic history on either side, nor any appearance of tubercle in the patient herself, who up to the time her illness began was apparently in perfect health. When about 12 she began to complain of weakness, became pale and dyspneic, and developed all the objective signs of severe anemia, with tremors, headache, restlessness, etc. There was great diminution of the red blood corpuscles, many microcytes, macrocytes, and poikilocytes. The amount of hemoglobin was also much reduced. Treatment was begun by the injection of 1 milligramme of corrosive sublimate on alternate days, and shortly after 0.5 g. bichloride of quinine. The sublimate was gradually increased to 0.5 cg., and 0.5 g. bromide of soda was given daily by the mouth. At the beginning of the second month very great progress had been made. The patient became better colored and gained in weight, and in about forty days the treatment was reduced. She left the hospital in perfect health. Case 2 was that of a patient 14 years old, showing anemia with glandular enlargement and suppuration. The same treatment was employed with a similar result. Case 3, aged 10, showed a family history of tubercle, but no signs

phthisis. There was anemia with much dyspeptic disturbance and diarrhea. Similar treatment was tried with similar good results.—*Brit. Med. Jour.*

Treatment of Tertiary Syphilis.—Neumann (*Wien. Klin. Rundschau*, Jan. 5, 12, 19, '96) holds that the principles of treatment should not be by routine, by preventive measures, or by Fournier's "chronic intermittent" method; they should follow the established rules for symptomatic therapeutics. The primary lesion should, as a rule, be traced locally. Where it is exceptionally large or hard, or gives rise to functional disturbances, it should be excised, not in the hope of obviating constitutional symptoms, but according to the ordinary surgical indications for the extirpation of tumors. Preventive treatment, particularly in the form of inunctions, may be adopted in the phimosis following indurative edema of the prepuce, or to guard against stricture when the primary sore is in the urethra. General treatment should begin with the first appearance of the rash, and should be as energetic and lasting as possible; the greatest care is necessary in preventing relapses. In the symptomless period treatment is indicated only under certain special circumstances, such as before marriage or during pregnancy in a patient who has had repeated abortions or premature or stillbirths; the husband of such a patient should be treated during her pregnancy, and, if this is not effectual, later on the wife herself. The aim of all therapeutic measures should be the most perfect removal of all syphilitic symptoms, since the evidence of statistics goes to prove that it is by this means that the appearance of tertiary symptoms is best prevented. There is at present no remedial agent which absolutely precludes the onset of tertiary syphilis, but by far the greatest risk of this is run by those who have been imperfectly treated or not at all. Statistics show that only about 22 per cent of all syphilitics develop tertiary symptoms, and that patients treated by Fournier's method are no more protected from them than those undergoing symptomatic treatment.—*Brit. Med. Jour.*

Accidents Due to the Use of Fly-Blisters.

—This was the subject of a discussion at a recent meeting of the Societe de Therapeutique, a report of which appears in the *Presse Medicale*, March 28 (*N. Y. Med. Jour.*). M. Ferrand said that he hoped to prove that this treatment was not responsible for all the accidents which had been attributed it. No doubt, he said, it had led to serious accidents, but all kinds of medicaments were capable of provoking accidents if they were employed without discretion. He thought this was not a sufficient reason for proscribing its use, as its favorable influence as a therapeutic agent had been demonstrated in a number of circumstances in such a way as to leave no doubt as to its efficacy. This treatment was said to develop latent nephritis and to give rise to an inflammatory process in perfectly normal kidneys. This, said M. Ferrand, was excessively rare and was caused by a too

extensive and too prolonged application of the vesicant in peculiarly susceptible subjects. With regard to its causing a traumatic surface which might become a source of infection, he said, a careful and judicious physician would prevent this complication; if aseptic dressing was used no suppuration would follow. A fact, he said, which certainly demonstrated that the accidents imputed to this treatment should be laid to those who did not know how to employ it was that cantharidin, employed in small doses, possessed a diuretic action which had been attested by such men as Cruveilhier and Lancereaux, who had not hesitated to prescribe it in cases of Bright's disease with a view to its efficacious action on the renal filter. Pathological physiology, said M. Ferrand, which confirmed the statistics furnished by the clinic, showed, moreover, that fly-blisters might, in moderation, aid in the defense of the organism by favoring the processes of the phagocytes.

M. Huchard, although he accepted M. Ferrand's explanations, stated that he considered this treatment as dangerous, and thought that it should be definitely excluded from medical practice. Not only was it a constant menace to the kidneys, he said, but it might open a way to the most dangerous infections. In acute pyrexia, especially, its employment should be proscribed; in pneumonia, broncho pneumonia, pleurisy, typhoid fever, etc., no good results had followed its use. The only result that he had observed had been the introduction into the organism of a new toxic factor capable of provoking the most serious disorders. The influence of fly-blisters, he said, was equally dangerous in cardiac troubles and in angina pectoris, for in such cases the urinary depuration was generally more or less impeded.

M. LeGendre thought that fly-blisters were capable of acting by suggestion; and from this point of view they might render good service. With regard to their influence on the phagocytes, it seemed to him altogether problematical, as it was yet far from being demonstrated that they had the power to provoke a generalized phagocytic process.

SURGERY.

The Treatment of Compound Fractures of the Lower Extremity.—The April number of the *Annals of Surgery* contains a report of a recent meeting of the College of Physicians of Philadelphia, at which Dr. L. McLane Tiffany gave a description of his treatment of compound fractures of the lower extremity (*N. Y. Med. Jour.*). The question of his disinfection had to be considered first, as every compound fracture was, of course, an infected wound.

The practice generally followed by Dr. Tiffany was as follows: The patient was *always* anesthetized in cases of compound fracture of the lower extremity. The injured leg was shaved, and scrubbed for five or ten minutes with a stout brush, soap, and hot water;

and not only was the seat of the injury so treated, but the limb for quite a distance above and below the seat of injury. In compound fracture of the ankle the leg should be cleansed to above the knee. In compound fracture of the thigh the cleansing included shaving of the pubes, the perineum, the anus, etc., going probably as far as the anterior superior spine of the ilium. If there was grease upon the surface, it was cleansed with turpentine, which was the substance Dr. Tiffany used to take off the grease which, in machinery and railroad accidents, was always present. The wound in the soft tissues was enlarged and everything under the skin was cleansed with soap and water and a nailbrush precisely in the same way as the skin. He did not use turpentine upon the denuded surface, because it burned for a long time, but cleansed raw tissues with ether, and the wound was enlarged wherever necessary so as to completely clean the patient.

With regard to the swelling which took place, the skin did not, but the deep fascia did, decidedly limit the swelling of the limb and produced constriction, therefore it was very freely slit open. When a tibia and fibula were broken, and the fracture of the tibia was compound, the author made a free opening over the fibula six or seven inches long, or as long as might be necessary, through the deep fascia, which was all the more necessary if the fibula fracture was compound. If he had any doubt as to the wound, he slit up the fascia more extensively than the skin. The reason of this was apparent, he said; the organs of the limb ran length wise and each was in its own sheath; hence the extravasation of blood and the exudation would run up and down the limb and not find a way out. He freed bones so that they would be movable, thus avoiding tension, both in the present and in the future.

Dr. Tiffany stated that he did this because he found that infection occurred in compound fracture, so there must be some inflammation. When there was cellulitis in the hand it extended up the forearm, and in its treatment long incisions were necessary, not only at or near the seat of the wound, but carried up the forearm as far as the greatest extension of the inflammation and passing through the deep fascia. Whether it was above the knee or below the knee, he treated it in the same way; the fascia of the thigh also was laid open quite as extensively.

The bones should come together easily. If there was much deformity he wired the bone and left the wire in; if there was not much tendency to deformity he stitched the periosteum with fine silk and left it, giving himself no trouble about the wire or about the silk which was left in. The wire might require removal, but the silk never was heard from.

With regard to putting the limb in position, he said, perhaps it might be wise, if there was much laceration, to use an apposition suture of fine silk inside the limb, just to hold the wound lightly together, but the wound was never closed under any circumstances. Then he put on a voluminous dressing of sterile gauze—he did

not use iodoform—then cotton, and then a plaster-of-Paris bandage. In fractures below the knee, he carried the plaster-of-Paris bandage from the base of the toes up to the knee, unless the knee was injured. He put the plaster-of-Paris bandage on moderately snug—just how snug was a matter which was decided by the hand of the surgeon who put on the bandage. He always suspended the limb from the ceiling, because it was more or less heavy, and injury might follow motion on the patient's part; at times an anterior splint was employed or simply a rope with a loop or two holding the limb; it was raised three or four inches above the bed. When the patient pulled himself up in bed his leg did not drag along the pillow. The author did all this before the patient recovered from the anesthesia. The limb was left in suspension without inspection of the wound for several weeks. Generally speaking, he said, he did not have to touch his patient for a number of weeks. At the end of six weeks a certain amount of shriveling contraction could be found, but the leg swung and the patient was comfortable. Finally, the splint was cut open, and a section taken out in front, while behind it was nearly cut through so as to form a hinge; a bandage was then put on and the man got up on crutches.

In compound fractures of the thigh the same general treatment was carried out, and Dr. Tiffany decided whether the patient's leg was to be put into a long splint or Buck's extension used, or whether it was to go up in a suspensory apparatus, which could be equally well supplied after this dressing. The leg must remain a number of weeks without being touched. When the casing was taken off, he expected to find a granulating wound level with the skin. Extravasation of blood was pretty certain to occur, and the white plaster splint became purple, but that was not a matter of importance. By the patient's temperature and pulse he judged whether another dressing was required. For a day or two at first the temperature went up and then dropped to normal. The small variations that took place in the treatment indicated would, he said, depend upon the appearance of the fracture, the size of the wound, etc. The first and most important thing was cleansing, the second was the thorough cutting of the deep fascia so as to allow of swelling, after which the patient did well. In regard to small punctures through the skin, the important matter to be considered was what sort of dirt had got in through the puncture. On general principles, the smaller the gateway the less chance there was of dirt getting in, but there was no certainty that dirt had not gone through a small as well as a large wound; for that reason it was the speaker's habit always to enlarge a small opening through the skin in order to clean it thoroughly and to keep it clean as well as he could. If he did not do this, he said, he should have to wait three or four days to see whether spreading inflammation would be set up. By opening the wound and cleaning it he was moderately certain of getting a clean wound, and the puncture through the skin was prevented from doing harm.

In regard to extensive laceration, and as to whether the limb could be saved or not, he thought that it was a matter of dirt also rather than of wound. Emphysema and spreading gangrene were unquestionably bacteriological diseases. Gas producing bacilli were well known. If they were not present, there was no emphysematous gangrene. In every case where spreading gangrene was present the bacillus could be isolated in a test tube, so that it was a question of dirt.

In regard to antiseptic irrigations, he thought they were useful according to the amount of hot water that was used, and the disadvantage of it was in proportion to the amount of corrosive sublimate used. He thought hot water was the best antiseptic. Corrosive sublimate had a bad action on the tissues. It produced destruction of the tissue. The stronger the antiseptic used the more did it form a film over the exposed surface, and thus protect the dirt which had got beneath the surface. Corrosive sublimate did harm to a wound, but hot-water irrigation and scrubbing did good. The water and the instruments were boiled and the gauze was sterilized by steam heat; the only things not sterilized by steam heat were the patient and the surgeon's hands and forearms. The patient was sterilized by scrubbing and hot water and soap, and the surgeon's hands and forearms were treated in the same way.

Treatment of Enlarged Prostate.—Negretto (*Rif. Med.*, Jan. 20, 21, 22, '96), having found that the enlarged prostate of dogs could be reduced by cauterization with Paquelin's thermo cautery through the rectum, applied the method with success in the following case: The patient, aged 66, had been treated by Bottini's method seven years ago, when the median lobe alone was enlarged. In 1895 there was enormous enlargement of the lateral lobes, some enlargement of the median lobe, with all the symptoms of advanced prostatic trouble. Catheterization was practiced; cystitis, fever, and general disturbance set in, so that the author determined to operate on August 10. The rectum was dilated and packed with iodoform gauze and the prostatic lobes fixed with a blunt hook and cauterized with a Paquelin thermocautery. The operation hardly lasted two minutes; the gauze was left *in situ* and a No. 18 Nelaton catheter fixed permanently. There was some vesical spasms during the first twenty-four hours, and the urine was blood-stained for three days. The catheter was well borne, and was kept in until seventh day. On the ninth day the catheter was removed permanently and the patient was able to pass water without pain or straining. On the fourteenth day the patient left his bed, and on the twentieth went out of the hospital in good health and with marked diminution of the prostate. Three and a half months after the operation the right and middle lobe were found atrophied; the left, which was only lightly cauterized, was reduced to nearly half its original size; the patient was able to work the whole day and to pass water freely without any disturbance. The author also reports two other

cases of prostatic enlargement in which cure was effected by bilateral resection of the vas deferens. As far as it is allowable to draw deductions from a single case, the author is inclined to believe that cauterization through the rectum will prove to be the best operation for the disease in those cases which require medical operative treatment.—*Brit. Med. Jour.*

Pneumonotomy.—Quinke (*Mitteilungen aus den Grenzgebieten der Medizin und Chirurgie*, bd. 1, hft. 1) has tabulated and analyzed 54 cases of pulmonary abscess treated by surgical operation. These cases, 17 of which were treated by the author, are arranged in three groups: The first of acute abscesses, both simple and gangrenous; the second of chronic abscess and putrid bronchiectasis; and the last of putrid suppuration caused by a foreign body in the lung. In a large proportion of the 54 cases (83 per cent) the inferior lobe of the lung was the seat of the disease. Of the total number of patients, 20 recovered and 20 died; in the remaining 14 cases, the surgical treatment either failed altogether or gave but imperfect results. The author makes out from his collection of records that whilst the mortality from operative interference is almost equal in acute and in chronic cases, the percentage of complete recoveries is higher by about 45 in the former than in the latter. It is concluded that the operative treatment of acute pulmonary abscess will be attended with complete success in two out of every three cases. The prognosis of such treatment in cases of chronic, and especially putrid, abscess is much less favorable. The author believes, however, that in future better results may be attained by earlier intervention. Surgical treatment, he holds, is indicated in cases of acute abscess which show no tendency to spontaneous healing. The prospects of an operation in such cases are better than those of an expectant treatment. If such suggestion be generally followed chronic pulmonary abscess with secondary bronchiectasis will, it is thought, less frequently be observed. Notwithstanding the less favorable prospects of operation in cases of chronic pulmonary abscess and sacculated bronchiectasis, such treatment is here recommended for these morbid conditions with the view of protecting against acute secondary inflammation the portion of lung still remaining sound. In cases of multiple bronchiectasis, although *a priori* a good result could hardly be expected from surgical operation, still, the author thinks, improvement may be brought about by such treatment. As such a condition constantly threatens fresh and fatal mischief, an operation, though not clearly indicated, need not be regarded as unjustifiable. In discussing the diagnosis of pulmonary abscess the author regards as important indications the purulent nature of the expectoration and the presence in the discharge of minute portions of broken down lung tissue. The quantity of expectorated fluid, he points out, affords no sure indication of the size of the cavity. In considering the diagnosis of the seat of a supposed pulmonary abscess, he states that when on

general grounds the existence of such a cavity is assumed, and a localized area of dullness exists without any distinct local symptoms of suppuration, this area should be selected as the object of the surgical attack. If not the precise situation of the disease it will in most instances serve as a guide to the purulent collection. Exploratory aspiration is objected to as a measure of diagnosis. It will not show whether the cavity be a large or a small one, and is a very probable source of danger in cases in which the affected portion of lung is not adherent to the wall of the chest. The author, in concluding his paper, describes his method of treating pulmonary abscesses, which consists in resection of portions of one or more ribs, free exposure of the parietal layer of pleura, and in making with the thermo cautery a free opening into the cavity after he has assured himself that adhesions exist between the lung and parietal pleura, or by a prolonged application of caustic has artificially established such adhesions. Pleural adhesions at the seat of operations he regards as an imperative condition in pneumonotomy. If there be any doubt as to the existence of such adhesions the surgeon must act upon the assumption that they are absent.—*Brit Med. Jour.*

Direct Laryngoscopy.—P. Bruns (*Berl. Klin. Woch.*, February 24, 1896) speaks of the value of this method of examination introduced by Kirstein, especially in relation to endolaryngeal operations. According to Kirstein, the whole of the larynx can be seen in only one fourth, and the posterior part in one fourth to one-half of the cases. The author relates his experience in eight cases, in five of which there were tumors of the larynx, and in three laryngeal stenosis. Three of the cases occurred in adults, and were all instances of polypus of the larynx. Here it was possible in one case to remove the greatest part of the tumor with the aid of Kirstein's method. But in another case only the posterior part of the tumor could be seen, and in the third case the growth could not be seen at all. In these two cases, therefore, the endolaryngeal operation had to be carried out in the usual way with the use of the laryngeal mirror. Of the remaining five cases occurring in children, two were examples of multiple papilloma and three of stenosis of the larynx. In children the conditions of examination are very different from those in adults. In young children it is often quite impossible to use the laryngeal mirror, even for examination, much less for operative purposes. The papillomata had in these cases been previously removed on several occasions by thyrotomy. The growths were successfully removed with the help of Kirstein's method, chloroform being required in one of the two cases. In one case a papilloma of the trachea could be seen after the removal of the laryngeal-growth, and this was extirpated through the tracheotomy wound. In the remaining children, aged respectively 1½, 4 and 7 years, the stenosis dated from an attack of diphtheria, for which tracheotomy had to be done. The usual method of laryngeal exam-

ination was impossible. By direct laryngoscopy the larynx was seen to be healthy in all three cases, and the stenosis was found to be due to granulation tissue in two cases, and to cicatricial tissue in the third case, all situated in the trachea. The operation was carried out through the tracheotomy wound, chloroform being required in two out of the three cases. Direct laryngoscopy can not take the place of the ordinary laryngeal mirror. In children it is an indispensable additional means of examining the larynx. A larger number of children than adults can be satisfactorily examined in this way. Endolaryngeal operations can be thus done in some cases without any very special experience in laryngeal manipulation.—*Brit. Med. Jour.*

Treatment of Chronic Inflammation of Cowper's Glands.—As the chief cause of chronic inflammation and fistulæ of Cowper's glands Prof. English regards the persistence of remnants of the gland. An effective treatment of these fistulæ is to divide the fistulous tract, open the cavity, and remove glandular remains by means of repeated applications of caustic potash, the Paquelin cautery, or the sharp curette. The best method of treating chronic tumefactions is extirpation of the entire gland or of the remaining portions, in the following manner: An incision is made through the skin over the most prominent part of the gland; the nearer this is situated to the middle line the more parallel the incision should be with the perineal raphe. After the skin, subcutaneous tissue and perineal fascia have been divided, the loose cellular tissue enclosing the gland is reached, and the latter can now be readily enucleated, the bleeding being inconsiderable. Enucleation of the anterior portion of the gland, however, requires some caution, as firm adhesions may be present here. The insertion of a catheter into the urethra prevents injury of the canal, although this is not likely to occur if the dissection be carefully carried out. On the other hand, if extensive adhesions exist, enucleation may be attended with much difficulty, and in this event insertion of the index finger of the left hand into the rectum is of much assistance. Enucleation of the connective tissue envelope is free from risk and facilitates recovery, as the margins of the wound are then composed of normal tissues. If cutaneous fistulæ are present it is often sufficient to lay open the tract, in order to expose the gland and remove it in the above described manner. If several fistulous tracts be present they must all be divided, and if a rectal fistula coexists the sphincter ani must also be split. The chief aim is to expose the gland as thoroughly as possible so as to facilitate its complete removal, for upon this depends the success of the operation. Proliferating granulations are to be removed with the thermo cautery. Urinary fistulæ require, in addition to the above treatment, that a catheter be left in the urethra. In cases of fistulæ following laceration of the dilated ducts of Cowper's gland, extirpation is also indicated.—*Wien. Klin. Wochens.*; *International Journal of Surgery*

Results of Operations Upon the Stomach.

—Haberkan (Archiv. f. Klin. Chir.), of Dantzig, has made a very exhaustive study of the literature of operations upon the stomach.

RESECTION OF PYLORUS.—He has collected 359 cases, with 176 recoveries and 183 deaths; 257 of these were for carcinoma, with 117 recoveries and 140 deaths; 50 were for ulcer, with 30 recoveries and 20 deaths. The total mortality for resection was 51 per cent; the mortality for ulcer, 40 per cent.

The statistics of the various surgeons varied between 35 per cent (Czerny) and 66.6 per cent (Lowenstein); Billroth's mortality was 53.6 per cent.

GASTRO-ENTEROSTOMY.—H. collected 388 cases: 241 for cancer, with 136 recoveries and 105 deaths, and 47 cases for ulcer, with 35 recoveries and 12 deaths. The total mortality was 41.5 per cent, while for carcinoma it was 43.5 per cent, and for ulcer 25.5 per cent. The mortality was much lower in female patients. In 117 men it was 50.4 per cent, and in 96 women it 35.4 per cent.

A study of the final results is of great interest and importance. Thirty cases died one to six months after operation. Twelve from six months to twenty two months after. Only 2 cases were alive more than ten months; 1 one year and eleven months, and 1 two years.

PYLORECTOMY FOR CARCINOMA.—The final results of pylorotomy for carcinoma were as follows: Of 51 cases that recovered from operation and were traced, 26 died from recurrence in 1½ months to 5½ years. Of these 26 cases, 11 died during the first 6 months after operation; 9 others the second 6 months; 1 died 15 months after operation; 1, 3 years; 1, 5½ years; 13 cases were alive and well at time of report, more than 1 year after operation; 9 of these had gone beyond 2 years, 4 beyond 3 years, 1 (Kocher's) had gone 5 years and 4 months, 1, 8 years.

PYLOROPLASTIC OPERATIONS.—H. collected 51 cases with 40 recoveries and 11 deaths; Torsta 31 cases; 38.7 per cent mortality.—*Amer. Med.-Surg. Bulletin.*

OBSTETRICS AND GYNECOLOGY.

Puerperal Self-Infection.—According to Dr. Charles Jewett, puerperal self-infection, in the sense in which the term has come to be used, refers to infection from bacterial organisms primarily present in the genital tract (*Am. Jour. Obstet. and Gyn.*). It is contradistinguished from contact infection in which the causative agent is conveyed to the patient during the lying-in period. The conception, however, is an unfortunate one since all infection is primarily from without. It finds no place in surgery, and it is more essential in obstetrics. Ovarian abscess, pus tubes, suppuration of the vulvo vaginal glands, or other pus-producing disease pre-existing in the pelvis may be the source of puerperal fever; but the patient in such cases is already an infected patient, and the puerperal disorder is but the

extension of the local septic process. Fortunately, with the exception of vaginitis, the concurrence of parturition and pelvic suppuration is rare. Even the disease producing bacteria of the vagina are exotics. The term autoinfection, therefore, if used at all, has no proper application in its etymological sense.

The bacteriological literature bearing on the relation of the vaginal secretion to puerperal sepsis is a voluminous one. The views and findings of the different observers are conflicting. Essentially, three opinions prevail:

1. That the vaginal secretion may infect whether healthy or diseased.
2. That only pathological secretions can infect.
3. That the vaginal bacteria, either in health or disease, have practically no part in the etiology of childbed fever.

The writer quotes many authors who maintain that pathogenic micro-organisms are always present in the vagina and in condition to take on virulence when a favorable soil is provided by the decomposing discharges following labor; and Prioleau (*Arch. de tocol. et de gyn.*) maintains that childbed fever may occur from the pre-existing micro-organisms in the genital tract in certain conditions of the mother or of her environment which favor sepsis.

Doederlein, after restudying the question in a series of observations upon nearly 200 cases, distinguishes normal from pathological secretions. The former, he contends, contains only fission fungi and are innocuous. Pathogenic bacteria, he declares, do not live in healthy vaginal mucus, the normally acid condition of the secretion, which he attributes to an acid-producing bacillus, being not only inimical, but fatal to them. In diseased conditions of the vaginal mucosa its secretions may infect. Here the acidifying bacillus disappears, and wound infection germs abound in active and virulent form. Clinically, healthy are distinguished from morbid secretions by their reaction to litmus as well as by their gross appearance. In health the reaction is strongly acid; in diseased conditions of the vaginal mucosa the reaction is either alkaline, neutral or feebly acid. The latter observation is confirmed by Williams, of Baltimore.

With a view to the collection of clinical data bearing on the question, the author has taken pains to ascertain the prevailing practice among obstetricians in the matter of preliminary disinfection, especially internal disinfection, and, as far as possible, the results obtained under individual methods.

The hospital patient is given a full bath on admission, with scrupulous cleansing of the external genitals, and she receives an entire change of clothing. Usually the bath is repeated from once to several times weekly during the waiting period. A general bath is the rule at the beginning of labor. The lower bowel is emptied and washed out with an enema, the entire lower half of the body is rendered as nearly aseptic as possible, and all precautions are taken with reference to the surgical

cleanliness of the patient's clothing, the bedding and other surroundings. In some hospitals a compress kept moist with a non-irritant antiseptic is worn over the vulva during the first and second stage of labor.

At the Sloan Maternity in New York, under McLane, the patient receives a bichloride douche (1 to 5,000) on admission. A similar douche is given at the beginning of labor, and is repeated on expulsion of the placenta. Dr. Broadhead, the resident physician, reports no mortality in cases conducted wholly in the hospital.

At the New York Maternity Hospital (Murray, Coe, Grandin, Jarman, Edgar) a sublimate vaginal injection (1 to 1,000) is ordered when the woman falls in labor, and a 1 to 10,000 douche at the close. The post-partum douche is carried into the uterus when intra-uterine manipulation of instrumentation has been practiced during the labor. In 1,321 cases, 1891 to 1895, there were no septic deaths.

In the service of the New York Society Lying in Hospital no preliminary douching is employed except for cause. A 1 to 10,000 bichloride injection is given on expulsion of the placenta. The uterus is irrigated after intra-uterine manipulation. Eight septic deaths occurred in 3,737 cases, but much of the work was done under unfavorable conditions in tenement houses.

At the New York Post-Graduate Hospital no internal disinfection is practiced in ordinary labor before or after the birth in normal conditions. The vagina is douched before the operation and the uterus after intra uterine interference, but not with bichloride. A three per cent carbolic or a one per cent creolin solution is employed. Dr. von Ramdohr, in charge of the service, reports 850 cases with one death from sepsis. Under a similar plan he has had no septic deaths in private practice in ten years.

The author notes the practice of many other authorities and institutions all, however, agreeing in the main.

Goldberg, of Dresden, reports the following experience: During 6 years, in 3,893 normal labors in which vaginal examinations were made, internal disinfection was practiced by douching with a 1 to 4,000 bichloride solution, aided by gentle friction. Two tenths of one per cent died. In 2,014 examined cases, in which no internal antiseptics was employed, 88 per cent were infected and one and a half tenths of one per cent died. Douches, he says, are therefore not only unnecessary but actually harmful. The difference in mortality, however, is insignificant.

The clinical facts thus far cited, however, would seem to show that the opponents as well as the friends of the douche have been too radical. Those who reject prophylactic douching during labor maintain that it breaks down the natural safeguards against infection; that, moreover, the superficial necrosis produced by concentrated solutions may even add to the risk they are intended to prevent. These views are not substantiated by the foregoing facts. They prove little or nothing more against the douche than that it is unnecessary. In expert hands it would appear to be practically harmless

even in normal conditions of the vaginal secretions. One thing is strikingly shown in the experience presented—what has been accomplished in diminishing the septic mortality and morbidity of childbed must be credited almost wholly to measures addressed to the prevention of contact infection.

The author's own practice for several years has been to use no anti-partum douching except for cause. Repeated vaginal examinations have been made and instrumental and manual operations performed with no internal disinfection in women apparently healthy. Yet he has had no septic death in more than ten years after labors wholly under his professional care. Minor grades of infection have rarely occurred.

With reference to the value of the litmus reaction for distinguishing pathological from normal secretions, the author has not been able to fully confirm the findings of Doederlein. Of 53 examinations, the reaction was strongly acid in 36, feebly acid in 16, and alkaline in 1. A marked acid reaction was noted in three instances in which the secretions were yellowish or greenish in color and evidently diseased. Of the feebly acid secretions the gross appearance was normal in one.

A Subdiaphragmatic Abscess Simulating

Empyema.—Such a case forms the subject of an article by Dr. F. Tilden Brown, to appear in the forthcoming "Report of the Presbyterian Hospital," of which an advance proof-sheet has kindly been sent to us. The patient was a woman, twenty nine years old, a native of Ireland, who had been married for five years. She was admitted on June 9, 1893. Two years before she had been delivered of a dead child after protected and instrumental labor. A year later she had begun to have pain in the left inguinal region. This pain had continued for seven months, when complete obstruction from fecal impaction had made her critically ill. Being relieved, she had subsequently kept herself free from abdominal pain by using small daily doses of castor oil. She entered the hospital for the repair of a lacerated cervix and perineum. Perineorrhaphy and trachelorrhaphy were performed on the 11th. On the 19th she complained of pain in the right umbilical region. On the 21st her temperature rose suddenly to 103.6°; pulse, 120; respiration, 20. Free catharsis and quinine effected temporary fall of temperature. On the 26th the temperature was still between 103° and 104° every afternoon, and she had pain in the left lumbar region. She vomited frequently and looked sick. Nothing was found on examination. On the 30th it was noted that for the last few days her temperature had not been over 100°, but pain in the left side continued. She vomited at times. On July 7th she complained of pain in the abdomen, was restless, vomited, had diarrhea, and again had a high afternoon temperature. Lavage of the colon was given. On the 20th she continued to have afternoon fever, followed by profuse sweating, and had been delirious the night before. Pain in the left side was complained of. On the 21st an aspirating needle was

introduced in the eighth intercostal space, above and behind the angle of the left scapula, and a yellowish fluid withdrawn. Examination showed it to be pus, and by culture a pure growth of colon bacillus was obtained. On the 25th she had a large and painful double parotiditis. On the 29th it was noted that until then the patient and her family had declined an operation. She was now in a critical condition. Under ether anesthesia aspiration was practised in the eighth intercostal space, in the mid-axillary line, and pus drawn. An incision was made upon the seventh rib, and an inch and a half of the bone was excised. There was no bulging forward of the parietal pleura. On making an incision through the tissue which presented, which looked rather more like muscle than compressed lung, the subdiaphragmatic abscess was for the first time suspected. Through the completed incision the finger could touch the concavity of the diaphragm above, and on evacuation of a large quantity of offensive pus and broken-down tissue the apex beat could be reached on the inner side, and what appeared to be disintegrated spleen toward the lower side of the wound. Hot douching brought away much additional debris. Generous drainage with tubes and gauze was employed. The wound was covered with the usual dressings. The patient rallied but little, despite stimulation and saline infusion, and died at noon on the following day.

At the autopsy, nine hours after death, the left lung, at the base, was found hyperemic and adherent to the diaphragm; otherwise both lungs and pleuræ, also the heart, were normal. The stomach at its cardiac end had a hard, finger-sized, white fibrous adhesion connecting with the upper part of the spleen. On the mucous surface of the stomach, opposite the adhesion, there was no gross evidence of any former perforation or ulcer. The spleen was of three times its normal size and nearly separated into two equal parts by a large necrotic infarct, the base of which was at the convexity of organ. The upper half of the spleen was drawn toward the stomach by the fibrous band, and occupied a position at right angles to the normal axis. Firm adhesions connected the splenic halves to all surrounding parts except the diaphragm above. The peritoneal cavity was thus protected. Both kidneys had numerous small white infarcts. On the posterior lower surface of uterus there was a fibroid of size of a duck's egg. The tissues of the perineum and cervix uteri appeared normal, and the process of repair seemed perfect. There was no gross evidence to intimate that infection had occurred in connection with the operation.

The history of fecal impaction, says Dr. Brown, was explained at the autopsy by the presence of a uterine fibroid indirectly invading the lumen of the rectum. The suspicion of subdiaphragmatic abscess should have occurred when the first pus drawn by aspiration yielded only a culture of *Bacillus coli communis*, added to the fact that there had been no pre-existing pulmonary history, although the physical signs corresponded to and naturally suggested empyema. The occurrence of double

symptomatic parotiditis should also have aided to attract attention to the probability of a process involving the peritoneum rather than the pleura. Meltzer, in his paper on subphrenic abscess, says Dr. Brown, refers to the error apt to ensue from placing too great reliance upon physical signs, and cites in evidence Wintrich's mistaking a subdiaphragmatic abscess containing air for a pyopneumothorax, and yet he does wholly agree with Leyden, who maintains that the etiology and history of the existing sickness is the only means of diagnosing a subphrenic abscess from an empyema or pyopneumothorax, for in two of these cases which he (Meltzer) has had himself such a dependence for diagnostic purposes would have proved deceptive where subphrenic abscess existed, and yet the primary cause was located in the cavity above the diaphragm in both cases. Moreover, he believes he has demonstrated that there are cases of intrapleural effusion with an exclusive and pronounced abdominal history. Penrose and Dickinson have reported ten cases of subdiaphragmatic abscess, in all of which a gastric perforation was found at the autopsy. In another case there was no perforation, but a cicatrized ulcer, where the cicatrization had apparently taken place subsequently to the formation of the abscess. In my case, says Dr. Brown, it is rational to presume that the same conditions pertained, and that the compact fibrous band uniting the stomach and spleen was a former walled in fistula leading from a gastric perforation to the seat of the abscess. Whether the prostrating attacks of abdominal pain experienced by the patient three months before entering the hospital were due to obstructive intestinal colic or to gastric ulcer and localized peritonitis can only be relatively inferred. At all events, the operation on the cervix and perineum appears not to have had any connection with the fatal septic processes afterward manifested. The case affords an opportunity to emphasize what may prove to be of value in the diagnosis between subdiaphragmatic abscess and empyema—namely, when pus which is aspirated from a region common to both affections yields on culture a pure or mixed growth of *Bacillus coli communis* there is a strong probability that the point of suppuration is situated below the diaphragm.—*New York Med. Jour.*

The Treatment of Pelvic Exudations in Women.—The *Revue internationale de médecine et de chirurgie* publishes an abstract of an article from the *Semaine médicale* in which the author remarks that when a pelvic exudation follows confinement or results from an infection, either operative or caused by a lesion of the annexa, we should at first restrict ourselves to a purely medical treatment. Absolute rest in bed, the constant application of an ice-bag on the abdomen, and, when the fever has ceased, covering the abdomen with a broad wet compress, are the principle measures to which we should have recourse in cases of this kind. Opium, says the author, may be employed in doses of half a grain three times a day, either by the mouth or

in suppositories; if the pains are peculiarly intense, an injection of morphine may be given every night. Under the influence of this treatment, he says, the inflammatory symptoms will diminish gradually, and frequently the exudation will completely disappear. Often, however, it persists, or rather, after having disappeared, it returns and sometimes resists medical treatment. In this case it becomes a question of operative treatment. M. Buschbeck and M. Ettinger, says the author, arrived at the conclusion, after an experience with thirty three cases in which operation was successful, that operative intervention was indicated in all cases in which the fever and the exudation did not appear after several weeks of medical treatment.

The region where the operation is to be done, says the author, varies according to the anatomical situation of the abscess. If pus accumulates in Douglas' cul-de-sac, it is in this region that the incision should be made, and the tissues carefully divided layer by layer. The blood-vessels of the vagina and of the purulent sac often give rise to an abundant hemorrhage, which must be arrested before going on with the operation. Membranous outgrowths on the wall of the cavity of the abscess should be destroyed. The sac is then washed with a solution of boric acid and salicylic acid and tamponed with iodoformed gauze or simply sterilized. If the walls are rigid, a glass or rubber drain is introduced. The subsequent treatment consists in rest in bed, daily washing out of the sac with weak antiseptic solutions, and, if necessary, fresh tampons. The incision should be kept open while there is still any secretion. If the exudation takes place between the abdominal walls and the peritoneum, the incision should be made from two to three finger breadths above Poupart's ligament and parallel with it. It should be about three inches in length, in order to permit of easy inspection of all the tissues. Layer by layer is penetrated slowly, and as the blood-vessels are cut hemostatic forceps are applied to them. If the epigastric artery is met with, it should be tied and cut. After the abscess has been opened the cavity is washed and tamponed. Occasionally the cutaneous wound is partly closed by means of points of suture.

Sometimes, says the author, the situation of the purulent collection can not be exactly determined, and we are then obliged to substitute laparotomy by extraperitoneal incision; but this, he says, is rare.

When it is a question of old exudations which are dense and present no fluctuation, the operation is painful and it is difficult to open a passage through the thick, hard, and pseudo-membranous masses to the center of the collection of pus, where the cavity is sometimes found to be small and filled with concrete pus or turbid serosity in which streptococci have been found in abundance. It is important to evacuate the pus or the serosity and to disinfect the cavity, for according to Buschbeck and Ettinger, this procedure suppresses the fever and leads more or less rapidly to a cure.

The fact of the presence of serum rich in streptococci

within old pelvic exudations, says the author, is a cause for reflection in regard to the dangers which massage may present in these conditions, as it so frequently employed in the treatment of cases of this kind.—*N. Y. Med. Jour.*

NOTES AND ITEMS

Prof. Behring's Gift to Science.—Behring has donated the 25,000 francs he received from the "Albert Levi" prize to establish a fund for sero-therapeutic research.

"The Medical Council" is the latest Philadelphia monthly. It is edited by Dr. J. F. Taylor and is devoted to Diseases of Women and Children, and Obstetrics.

North Carolina Physicians are forced to pay a license fee of \$10 per annum. The State is now asked to use the \$15,000 so obtained to establish and maintain a vaccine and antitoxin farm.

Dr. Floto, of San Francisco, who is ninety-four years old, is still in the active practice of his profession. He believes that he is the oldest practicing physician in the country.

A Sanitary Conference will be held in Springfield, Ill., May 22 and 23, for the purpose of bringing together the health officers of all the cities in that State in order that general measures regarding public health may be discussed and uniformity introduced.

The Serum Treatment.—Professor Virchow, of Berlin, says that in the diphtheria cases in the Emperor and Empress Frederick Hospital for Children the serum treatment has been generally adopted, and with brilliant success. The treatment of scarlet fever by serum, however, was far less successful, 25% of the cases received having died.

Limited to Skin Practice.—A young physician with an amount of braggadocio altogether out of proportion to his practice was met on the street by an older physician, who asked him how he was coming on. "I have got more than I can attend to," was the boastful reply. "I had to get out of my bed five times last night." "Then why don't you buy some insect powder?"—*Omaha Clinic.*

Unobserved Gonorrhea of the Rectum.—Dr. Wallace Johnson, of Washington, writing to the *Medical News*, March 28, considers the question of the unobserved frequency of the above-named symptom. On the same subject, in the February 20 number of the

Deut. Med. Woch., is an article by Dr. Theodore Barr, Dermatologist to the City Hospital at Frankfort-on-the-Main, giving some unusual figures as to the frequency of the disease when carefully sought for. He says that from June 15, 1895, to January 1, 1896, of 191 female patients with gonorrhea, 67, or 35.1% of all the cases, had gonorrhea of the rectum, as was established by microscopic examination. He thinks that the supposed rarity of the disease is owing to the fact that few cases give rise to symptoms pointing to the rectum. Few have bloody or purulent discharges from the rectum and few have pain or tenesmus. When these symptoms are present he thinks them due to excoriations and ulcerations of the anus. Dr. Barr thinks that the cause is almost always found in a cervical gonorrhea, the secretions from which are carried into the rectum by the syringe nozzle, the thermometer or other manipulations about the anus by the patients of not too cleanly habits. One of his cases developed a periproctitis as a complication, which afterwards formed a fistula, in the discharges of which the gonococci were demonstrated.

War on Tuberculosis.—The New York State Board of Health is making strenuous exertions to stamp out tuberculosis from among dairy herds of this State. The Board has determined to ask the Legislature to appropriate enough money to enable the health authorities to eradicate the disease, and next year will ask for an appropriation of \$300,000 to carry on the work. The physicians who are active in this crusade are Drs. Dan'l Lewis, President State Board of Health; A. H. Doty, Health Officer, port of New York; Charles J. Wilson, President Health Board of New York City; George B. Fowler, Commissioner Health Department of New York City; T. Mitchell Prudden, Director Pathological Laboratory, College of Physicians and Surgeons; H. M. Biggs, Director of Bacteriological Laboratory, Health Department of New York; Baxter T. Smelzer, Secretary of the State Board. In a lengthy circular letter addressed to the Health Commissioners throughout the State the Board says:

"Tuberculosis is now so widespread in this State that no owner of cattle can be certain, no matter how well his animals may appear, that some of them are not already seriously diseased, and constantly infecting healthy animals with which they mingle in the stalls and pastures, or that the members of his own family are not being infected by use of milk from such animals."

They recommend the tuberculin test as a means of determining with certainty the existence of incipient tuberculosis in those cattle which appear perfectly well and give no signs of disease. It is the purpose of the State Board of Health to urge upon the Legislature such revision of the existing law upon this subject as shall insure certainty in the detection of the disease, free of cost to the owners of cattle, and an appropriation that will secure for the owners a direct and speedy payment by the State for all cattle destroyed at a fair and equitable rate.—*Am. Med. Surg. Bull.*

PUBLISHER'S DEPARTMENT.

REPORT FROM C. H. HICKEY, M.D., Denver, Col.: "I have used Wine of Cod Liver Oil (Stearns'), and have found the results very satisfactory. I shall use it further in cases with tubercular tendency, requiring building up in their general condition."

MESSRS. PARKE, DAVIS & CO., the well-known manufacturing chemists of Detroit, Mich., have just published a complete catalogue of the products of their laboratory. It is well and conveniently arranged for ready reference and we are informed that they will mail a copy free to our readers. Send them a request mentioning the MEDICAL REVIEW.

GLUTOL-SCHLEICH (POWDERED FORMALIN-GELATIN).—In view of the importance of Formalin-Gelatin in the treatment of wounds, as proposed by Dr. C. L. Schleich and the approval that it has already received in scientific circles, we deem it necessary to call your attention to the following facts.

It is the Formalin-Gelatin of Schering's manufacture only that Dr. Schleich has employed, that is prepared under his supervision, whose satisfactory action he is responsible for. This supervision is absolutely necessary in a new product, so as to insure its efficacy. Only by a continuous clinical control on the living organism by its inventor, can its usefulness be vouched for. We should remind you that it is not a question of mechanical action and chemical disinfection of wounds, but the application of an entirely new principle and method in surgery.

Only the Formalin-Gelatin made by the Chemische Fabrik auf Actien, formerly E. Schering, Berlin, which they have called "Glutol" for convenience sake, has the approval of and bears the name of Dr. Schleich. Schering & Glatz, New York, Sole Agents for the United States and Canada.

THE FOLLOWING LETTER from Mavrogeny Pacha, Physician-in-Chief to His Majesty the Sultan, is but one of many to show the esteem in which distinguished physicians hold the well-known tonic wine "Vin Mariani."

YILDIZ PALACE, CONSTANTINOPLE, July 2, 1895.

"Sworn enemy of the proprietary medicines which have of late years inundated all countries, and whose only object is the acquisition of gain for the proprietors, without the least benefit to science nor to humanity, I make a single exception in favor of one preparation as meritorious, and which is thoroughly praiseworthy. I refer to 'Vin Mariani,' which, without guise of deceit and mysticism, is valuable in its fortifying qualities, and has conferred high benefits upon weak and suffering humanity.

"[Signed]

MAVROGENY PACHA,

"Physician-in-Chief to His Majesty the Sultan."

During the past thirty-five years "Vin Mariani" has gained more ardent admirers among the medical profession throughout the world than any other preparation, and justly so, as there has never been a disappointment from its use. This is specially noteworthy on account of the attacks made from time to time against Coca (generally from interested parties), and on investigation it is shown that the many so-called Coca wines are nothing more than shameful mixtures of cheapest, inferior wines, and variable solution of Cocaine unscrupulously sold as Coca wine, simply for mercenary purposes.

It is in this manner that really useful drugs are brought into discredit.

M. Mariani has gathered the written opinion, clinical notes, etc., of many thousand physicians from all parts of the world, showing the universal high opinion of practitioners who have subjected "Vin Mariani" to thorough test.

MEDICAL REVIEW,

A WEEKLY JOURNAL OF MEDICINE AND SURGERY.

VOL. XXXIII.

ST. LOUIS, MAY 9, 1896.

NO. 19.

ORIGINAL ARTICLES

A Report of Three Cases of Labor With Membranes Intact.

BY T. A. WAKELY, M.D., JACKSONVILLE, ILL.

CASE I.—Mrs. X, multipara, aged 24, had been having occasional uterine contractions and hemorrhage for about a month, appropriate measures were taken to lessen the hemorrhage and check the pains; with only partial success. There was evidently a partial detachment of the placenta and an oozing of blood from that surface, passing between the membranes and the uterine wall. Stronger pains and more profuse hemorrhage resulted in my being summoned, and I found the os uteri considerably dilated and contractions strong and all remedial agents powerless to control the pains and hemorrhage. Finally the fetus and placenta enclosed in the membrane was extruded as one mass.

The period of utero-gestation was supposed to be the fifth month. Immediately on delivery the membranes were ruptured and the fetus removed from the sac, and while life was present there was no respiration.

The mother made a good recovery, although there was some post-partum hemorrhage; more blood being lost than in a normal labor at full term.

CASE II.—Mrs. Y., primipara, aged 18, in the eighth month of pregnancy, had an attack of measles, and a few hours after the appearance of the eruption labor pains came on and within one-half hour after my arrival at the house delivery was accomplished, the membranes being unbroken.

As soon as the labor was completed I ruptured the membranes and the child breathed and lived a little over three hours. The mother made a good recovery both as to measles and the puerperium.

CASE III.—Mrs. Z., primipara, aged 20, was taken in labor in the morning, and as it was supposed to be only

the end of the seventh month of pregnancy, efforts were made to cause the pains to cease and have the patient go on to full term. In the absence of the regular medical attendant, I was called about 8:00 P.M. Symptoms reported at this time were profuse hemorrhage and active labor pains. Within a few minutes of my arrival delivery was accomplished and the sac, as in the previous cases, was intact.

It was at once observed that the fetus was too small for the estimated period of utero-gestation, and it was also self evident that there was no life and that the fluid was discolored and entirely different from that in the other two cases.

On incising the membranes it was found that the fetus was much smaller than the period of gestation would indicate, and it was also macerated. It was, therefore, concluded in this case that the death of the fetus had occurred about two weeks previous to the birth.

In this case, also, the mother had an uninterrupted convalescence with no untoward symptoms.

It was very fortunate in this case that the membranes were not ruptured prior to delivery, as that state of affairs would have exposed the mother to septic infection which danger was entirely escaped.

These cases were of interest to the writer because in his experience of over a quarter of a century he had not encountered similar cases until this time when these cases occurred in rapid succession.

A verbal report of these cases was made at the meeting of the Medical Club of Jacksonville, Ill., and no other member had observed this condition in his practice.

Doubtless other cases have occurred and may have been reported but probably such cases are somewhat rare and therefore worthy of being recorded. Some practical deductions may be made from these cases.

CASE I shows that other conditions than placenta previa may cause pain and hemorrhage.

CASE II.—The causation was interesting and would lead us to guard the pregnant woman against all diseases, especially the exanthemata.

CASE III.—The termination of this case was most fortunate for the patient; the rupture of the membranes anti-partum would have been a veritable calamity.

Chronic Gastric Dyspepsia.¹

BY K. S. HOWTEN, M.D., BIGBYVILLE, TENN.

There are many things in common in the causation and clinical history of dyspepsia, whether due to an inflammation or of neurotic origin. Rapid eating, imperfect mastication, etc., are the chief exciting causes of all forms of dyspepsia. Mental shock, etc., belongs especially to the neuroses. The pathology of functional dyspepsia consists of an atonic condition or exaggerated irritability of the nerves of the stomach. I can not accept the proposition that the purpose of the nerves is simply to connect the stomach with the general system, but believe the nerve supply necessary to the proper performance of its function and that lessening the force or excitement of these nerves always results in disturbance. The pathology of "gastritis" or preferably "gastro-adenitis" is one of glandular inflammation and its natural results.

The differentiation from organic disease can only be made by exclusion. In making a differential diagnosis between the different varieties of dyspepsia and various stages of each variety, the stomach tube is an almost indispensable diagnostic help.

In treatment, dieting plays an important part, although it may be entirely too strict and kept up too long and a more liberal diet should be added as early and as rapidly as possible. Every one should appreciate the fact that digestion begins in the mouth, and every error as to cleanliness of the mouth through mastication and insalivation should be immediately corrected. Lavage, with alkalized water, is a most valuable therapeutic agent and simply drinking large draughts of the same before breakfast also gives good results. In hyperacidity alkaline remedies, magnesia, bicarb. sodium, etc., given two hours after eating, are indicated. In hypoacidity, hydrochloric acid is most widely used and highly lauded. It is doubtless often given in too large quantities and for too long a time. An acid on both sides of a secreting membrane is not a condition favorable for osmosis, and the constant supply of this acid from the outside would cause the power of its secretion to become weakened and dormant. Hence it should be given only temporarily, to increase digestion and thereby aid nutrition and should surely be withdrawn as soon as the glands become more able to perform this normal function. The same objections apply with still greater force to pepsin and the theory upon which this and like remedies have been so widely used, is certainly a most unscientific and disappointing one. Creosote is a most valuable antiseptic and anti-fermentative, nux vomica an excellent tonic, and belladonna and ipecac are good stomachics, and massage and electricity are useful adjuvants to other treatment. Cascara is admirably suited for relieving the constipation.

¹Abstract of a paper read before the Medical Society of the State of Tennessee.

Eucaïne—A New Local Anesthetic.¹

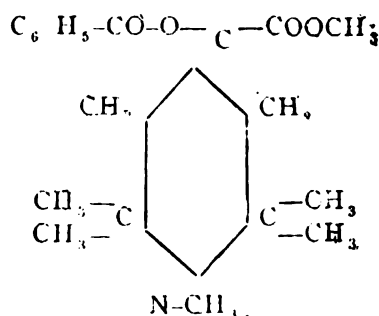
BY H. KIESEL, DENTIST, BERLIN.

When one talks or writes of a new local anesthetic now a-days, it is met with a dubious shake of the head, and either its failure or the report of toxic by-effects that rob it of all its value is awaited. For the list of such remedies is by no means a small one; yet there is none that is always applicable or successful.

Once it was thought that cocaine deserved its place at the head of the list of the local anesthetics, and it received an enthusiastic welcome. But soon its too frequently severe toxic effects were learned; it was seen that its solutions readily decomposed and above all, its non reliability was recognized, since in some cases even large doses were found to have little or no effect, and in other instances the injection of small amounts would be followed by excessive reaction. The author has himself had the experience of an injection of 0.05 grams of cocaine ($\frac{1}{4}$ grain) causing so violent a reaction that the patient remained in an apparently lifeless condition for an hour and a half. The pulse and the respiration seemed to stop; amyl nitrate was useless and the patient's life was saved only by the vigorous use of artificial respiration. Palpitation, feelings of apprehension, tiredness, apathy lasting for hours, and even vomiting are not unusual effects of cocaine injections.

In consequence of all this cocaine was soon almost banished as a means of local anesthesia from our armamentarium. A substitute for it, on which I am about to report here, will indeed be welcome; I refer to the recently introduced remedy known as eucaïne.

Like cocaine, eucaïne is the methylester of benzoylated oxypiperidincarbonic acid. Its constitution is represented by the formula:



The hydrochlorate of eucaïne, which is to replace the hydrochlorate of cocaine, has the following chemical constitution: $\text{C}_{17}\text{H}_{21}\text{NO}_4\text{HCl}$.

From a chemical point of view eucaïne has an advantage over cocaine in that it is not decomposed by boiling with water; cocaine under similar circumstances dividing into benzoylecgonine and methyl alcohol, and losing its efficacy as a local anesthetic.

Eucaïne, like cocaine, is used in the form of an injection.

¹Translated from the "Zahnärztliche Rundschau," Berlin, April 5, 1896.

tion. At first I employed a solution of 1:15 of sterilized water, using, according to the nature of the operation and the size of the field to be covered, from one to two syringefuls. But I soon found that the higher percentages might be employed. I then prepared a solution of 1:6½, and used that thenceforth in my experiments. Their results were entirely satisfactory.

As regards the advantages of eucaine over cocaine, I note as follows:

1. The heart is in no way influenced by it. In fact I noticed that in very nervous patients, whose pulse had risen to 120 and 130 before the operation, the heart beats became normal and regular very soon after the injection.

2. The anesthesia is more extensive in area and lasts longer than does that of cocaine. In some of my experiments the analgesia extended even to the muscles. In one case, where an injection was given over the first incisor, there occurred a paralysis of the alar nasi and anesthesia of the nasal mucous membrane on the right side. The patient declared that her nose felt as if it was stopped up, but the sense of smell was not interfered with.

3. As much as 2 grams (30 grains) of eucaine can be injected without trouble; whilst of cocaine the similarly safe dose is only 0.01 gram (¼ grain). Thus of a solution of 1:6½, about 15%, 12 syringefuls would, however, under favorable circumstances be sufficient to painlessly extract all the teeth from a mouth.

4. Solutions of 1:6½ in sterilized water are permanent at the ordinary temperature of the room. They remain clear without the addition of carbolic or salicylic acids and do not become flocculent as cocaine does.

5. Finally I am informed that it is intended to put eucaine on the market at a price considerably less than that of cocaine.

When we consider the facility of application of eucaine, the certainty of its action, and, above all, its great advantage in the absence of noxious by-effects, it is evident that it will soon become one of our most favored anesthetic remedies.

I have known the preparation since November, 1895, and have used it exclusively. My results have been such that I have cast aside both ethyl chloride and ethyl bromide entirely.

Who among us has not experienced the excitation and vomiting that so frequently occur in operations done under the bromide of ethyl narcosis? Who among us has not seen ethyl chloride cause excessive secretion of saliva, when extraction of the second and third molars were undertaken? Who has not met cases in which the stream of chloride of ethyl was hindered by the soft parts from reaching the second, not to speak of the third molar? All these unpleasant things may be avoided by the use of eucaine, without in any way interfering with the results that are aimed at.

I use a Pravaz hypodermics syringe and inject the solution about 1 centimeter in front of the tooth to be extracted. In this way it is rarely difficult to do a

painless extraction even of the third molar. In one case, in which on account of ankylosis the syringe could not be advanced far enough—the third lower molar of the left side was to be extracted—I injected from without, in the direction of the diseased tooth. Four or five minutes after the injection the anesthesia was so great that the extraction could be effected without pain. If, as sometimes does happen, the effect of the drug is not at once apparent, or is not sufficiently marked, it suffices to give a half, or in rare cases a full syringeful additional, and both patient and operator will be satisfied with the result. In none of my cases did any of my patients show any disturbance of the system at large.

In a few cases there were swellings of the cheek after the injection, though the solution and the disinfection of the syringe could not be criticized. Thereafter I cleansed the mucosa thoroughly with cotton soaked in carbolic solution before making the puncture, and I have seen no more of them.

I shall now mention two cases in which I used eucaine which was characteristic, and will enable us to judge of its great applicability in dental practice.

The first was the first one in which I used the drug. It was the extraction of the root of the left upper canine, in consequence of a bet, the condition of which was that the extraction should be done without narcosis. With eucaine it was done painlessly and satisfactorily.

The second case was that of a theological student, who had undergone chloroform narcosis fifteen times in half a year for surgical reasons. I knew that the patient had been operated on under chloroform, but that the narcoses had been so many was purposely concealed from me. The patient had a severe toothache, the cause of which he thought was the second superior molar of the left side, through the second inferior molar of the same side was also painful. The patient could not be convinced of this error, and demanded extraction of the latter under narcosis. To this I finally consented, as the second left inferior molar was already lost. The patient was extremely timid and believed that only very large quantities of ethyl bromide could procure him absolute painlessness. He consequently resisted the ethyl bromide action to the utmost. Narcosis occurred only after the administration of 25 grams (½ ounce) of ethyl bromide. I then attempted to extract the tooth; but the patient awoke too early, and the tooth was fractured. In the evening the patient came back with violent pain and demanded that I extract the root. His condition was such that I could not think of another ethyl bromide narcotization. But a syringeful and a half of eucaine sufficed. The next day the patient had become convinced that my opinion was right and demanded the extraction of the second left superior molar. Again he was given an injection of one and a half syringefuls and again there was the same good effect. The patient assured me that he had felt nothing at all. These good results in extraction, together with similar ones in other operative procedures, induced me to sub-

stitute eucaïne for the cocaine in my arsenical paste. Here also its action was an excellent one. But seldom were there complaints of slight pain after the introduction of arsenic with eucaïne.

Such are my experiences; and they give me the right to ask my colleagues to replace cocaine with eucaïne in all cases so as to control my experiments and to extend the usefulness of the drug.

Eucaïne is a valuable enrichment of our armamentarium; and will be at least a very dangerous rival to cocaine, as soon as it is better known.

Metallic Silver and Silver Lactate and Citrate in Surgery.—At a recent meeting of the Dresden Gesellschaft fuer Natur- und Heilkunde, as we learn from the *Deutsche Medizinische Zeitung* for March 26, Dr. Crede gave the results of his investigations of silver and some of its salts as antiseptics. He has satisfied himself that metallic silver, when brought into contact with colonies of schizomycetes, kills them without exerting any unfavorable action on the animal tissues. So it may be remarked that the late Dr. Marion Sims' choice of silver wire as a material for sutures was happier than could be realized at the time. Crede says that aseptic wounds coated with silver foil remain aseptic for weeks at a time, and heal better than with any other dressing. Instead of silver foil, he has lately employed a dressing material made by Max Arnold, of Chemnitz, in the fabric of which metallic silver is intimately blended in such a manner as to admit of its being cut or torn into any shape desired. There is also a dressing in the form of a mull containing powdered silver that may with advantage be substituted for iodoform gauze in packing deep wounds.

Numerous experiments have shown that silver forms a lactate with the lactic acid produced in the metabolism of the micro organisms, and that this compound kills them. Therefore it occurred to Crede to make direct use of *silver lactate*, instead of silver in the metallic state. This preparation, known by the trade name of *actol* or *aktol*, he thinks fulfills all the requirements of an antiseptic better than any other. He has given as much as fifteen grains of it subcutaneously without the least ill effect; there was only a slight burning pain at the site of the injection, lasting for but a few minutes. Silver lactate forms no insoluble compounds with the alkaline secretion of a wound or with tissue juice, as, for example, corrosive sublimate does, but only soluble ones, which gradually permeate the tissues and thus extend their action to some distance from the surface.

Silver citrate, however, seems to be quite as efficient and to be free from some minor disadvantages (not specified) of the lactate. The citrate has the trade name of *itrol*. Crede says that it is a perfectly harmless antiseptic and an excellent dusting powder for wounds. In the course of four months he has treated many hundreds of wounds with it, and with never the least untoward effect.—*N. Y. Med. Jour.*

MEDICAL REVIEW.

EDITORIALS

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PUBLISHED UNDER THE AUSPICES OF THE
MEDICAL REVIEW ASSOCIATION

BY O. H. DREYER.

YEARLY SUBSCRIPTION, \$3.50. SINGLE COPIES, 10 Cents.

TO CONTRIBUTORS AND CORRESPONDENTS.

All letters whether intended for publication or not must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of the meetings of their respective societies, and of officers elected.

Members of the profession who send us information of matters of general interest to our readers will be considered as doing them and us a favor, and we shall take pleasure in inserting the substance of such communications.

Communications, Medical Books for review, and all letters containing business communications or referring to the publication, subscription, or advertising department of the REVIEW, must be addressed to O. H. DREYER, Publisher 112 N. 4th Street, St. Louis.

Entered at the St. Louis Postoffice as Second-Class Matter.

Professional Secrecy.

In the damage suit of Mrs. Kitson, plaintiff, against the celebrated Dr. Playfair, of London, defendant, the jury returned a verdict against defendant, emphasizing the verdict by increasing damages from a sum equivalent to \$25,000, the amount claimed, to \$60,000. Dr. Playfair appealed against the judgment, but according to the latest information the appeal has been withdrawn, while the terms of the settlement arrived at are not stated. The medical fraternity has been thoroughly agitated by this lengthy and important law suit.

From the daily press reports it will be remembered that the suit of Mrs. Kitson, a relative of Mrs. Playfair, and a patient of Dr. Playfair, was based upon a communication by the Doctor to his brother-in-law, Sir James Kitson, revealing certain facts and deductions detrimental to her private character. Mrs. Kitson was receiving from Sir James Kitson a considerable yearly income which was discontinued on the strength of said communications. Attempts have been made on the part of Dr. Playfair's colleagues to "whitewash" him of his

guilt, ventilating the question of professional secrecy in all possible directions and varieties.

Although few have followed up all the intricacies of this memorable and long continued trial, the general consensus of opinion appears to be that the eminent and generally esteemed doctor has committed a grave error. The best argument that can be advanced in his favor is that he was prompted in his course of action by strong motives of family duty. By a natural association of ideas all kinds of comparisons and hypothetical cases have suggested themselves to the minds of those interested in the matter, of which the following is a fair sample. Supposing a physician had been consulted in a case of a deadly infectious disease in a country where he was not compelled by law to report infectious diseases and supposing that by reporting the case the patient's business would be ruined—would it be, under such circumstances, the duty of the physician to warn the neighbors against entering the infected house? In reality it is not an infrequent occurrence that one or more infectious diseases occur in a house where, for instance, a small grocery store or meatshop is carried on and where the proprietors are merely able to get along and have difficulties in paying their bills without the additional misfortune of having their family invaded with an infectious disease. Would, under such circumstances, the physician not be justified in warning the neighbors not to enter such a house, even if he was not compelled by law to report the case to the board of health? The question, then, presents itself whether it be conceivable that conditions may arise in which the breaking of professional secrecy is justifiable in order to protect the community, the neighborhood, or the family from contaminating immoral influences.

A legal correspondent of the *British Medical Journal* has gathered a number of interesting questions relating to this subject from the *London Times*, among which the following case, including answers and comments, is of much interest:

"‘E. J. D.’ relates the case of a patient who has consulted him for discharging syphilitic sores on his arms, and who is employed in distributing milk, which is liable to be contaminated by the discharge from these sores. He says: ‘I dare not inform the master—he would probably discharge the man; nor warn the customers—they would certainly cease to take the milk. Legally, I am involuntarily obliged to witness the probability of a number of infants and adults becoming infected with a foul disease, yet the law compels me, at the risk of being fined, to give immediate notice to the sanitary authority of a case of scarlet fever—a very mild disease when compared with the other.’

"The remarks on this letter by other correspondents are very instructive. ‘Privilege’ suggests that it is the duty of ‘E. J. D.’ to point out to his patient the harm he may do, and then to wash his hands of the case by refusing to attend him any longer, and telling him to go to the hospital. But then how about the medical

officers to the hospital? Is professional confidence to extend only to private patients?

"‘Honorarium’ bluntly says ‘E. J. D.’ ought to protect the public and never mind the consequences. ‘The risk he will run is not different in kind from that involved in every other decision which he has to take in the daily exercise of his profession. He must accept his responsibility and its consequences.’ This is very easy advice for a layman to give, but it entirely ignores one thing, namely, that doctors are probably more or less like other people, and although as public spirited as their neighbors, are not unmindful of the duty of self-protection; and it is altogether unreasonable to expect that they will run the risk of being ruined by an action in order to safeguard the interests of the public. ‘On-looker,’ another correspondent, wisely sees this, and remarks: ‘The law should be so readjusted as to enable the doctor to fulfill his paramount duty to society and to his own conscience without exposing himself to risks which the average citizen hardly can be expected to confront.’

"‘C. A. S. G.’ possibly a lawyer, writes to show that ‘E. J. D.’ would have nothing to hear from an action at law for two reasons: (1) His disclosure to the milkman's master would be a privileged communication; and (2) justification—that is, proof of the truth of the alleged statement would afford a complete answer. This may be very comforting, but when it is considered how easily privilege may be abused according to the latest legal views, and that to prove the absolute truth of a medical diagnosis is not always the easiest thing in the world, the practitioner will be wiser to avoid the possibility of an action; for, whether he wins or loses, he is pretty certain to be heavily mulcted in expenses."

A London correspondent writes to the *N. Y. Sun*:

"The sweeping public verdict in the Kitson-Playfair case has been in effect that a physician has no right to disclose a professional secret to any one except in the rare, if not impossible, circumstance of its being necessary in order to prevent the commission of a crime. Within a day or two it begins to appear that this verdict is not quite unanimous among laymen. Mr. Gladstone is the one important exception quoted. He is a warm personal friend of Dr. Playfair, and he writes to him that he considers that he did ‘neither more nor less than his duty.’ But Mr. Gladstone will have few supporters in an opinion which everybody will feel is influenced by personal friendship.

"One of the most interesting points which the public is considering is whether a doctor is justified in confiding his professional secrets to his wife. The question is certainly debatable, and there is some divergence of opinion manifested both within and without the profession. Justice Hawkins, who presided at last week's trial, raised the point, but he did not rule upon it, as it was not involved in the issue. He described it, however, as a ‘nice question.’ The English law has decided that the communication of a slander or a libel by a man to his wife is not publication, the theory being that a

man and his wife are one. This is an old decision, however, and whether it would stand in these days of new women it is impossible to say.

"It was argued by several of the most eminent physicians in England who appeared in support of Dr. Playfair last week that a doctor has the right to betray professional confidence if necessary for the purpose of protecting his wife and family. Therefore, whatever may be said about Dr. Playfair's action in making a communication to Sir James Kitson about his patient, he had a perfect right to inform his wife that in his opinion Mrs. Kitson was not a suitable person for her to meet socially. The obvious answer in reply to this is that a doctor's family is not entitled to any special facilities for their social protection which a layman's family does not enjoy.

"Several writers have drawn parallels between the duty of a doctor and that of a member of the legal profession. Suppose, for instance, as may easily happen, that a personal friend of a lawyer consults him about a matter in which his (the client's) course has not been commendable or honorable. The lawyer may give his best professional advice, and the affair may be settled without publicity. Is the lawyer entitled to tell the story to his wife in order that they may cease to associate with the individual concerned? Certainly not is the unanimous reply. But the lawyer, if he chooses, may make this use of his professional knowledge: He can say to his client:

"Now that this business is settled, I want to tell you that our intercourse hereafter must be purely professional. I shall respect your confidence, but I wish you to discontinue social relations with my family. If you are invited to my house, I expect you to decline the invitation.' And why are not a doctor's duty and privilege precisely the same?

"In Mrs. Kitson's case, it should be observed, she of her own volition wrote to Dr. Playfair that she would not cross his threshold until he had withdrawn his suspicions of her character. And yet he considered it his duty to inform his wife, to say nothing of Sir James Kitson, of those suspicions."

The English papers and journals are replete with questions having a bearing upon the subject of professional secrecy showing the intense interest manifested in the question by all classes of society, and the Kitson-Playfair trial seems to be destined to play the role of an important precedent in future law proceedings. The unusual action of the jury of increasing the sum of damages in their verdict is certainly remarkable and, we believe, without precedent. Physicians are, as a rule, exceedingly discreet in guarding the secrets of their patients and always aware of the fact that secrets are confided to them only for the purpose of assisting in the treatment of disease. Occurrences like the one which has caused so much comment are—to the honor of the medical profession be it said—exceedingly rare.

The New Remedy for Consumption.

The very nature of the predisposing and exciting causes of consumption, its insidious development, the presence in advanced stages of mixed infections as well as the previous failures of enthusiastically advocated so called consumption cures have made the members of the medical profession extremely sceptical with reference to any newly advocated remedy in that disease. Every well-informed physician is now waiting for the announcement of Behring or some other bacteriologist, who enjoys the confidence of all his colleagues in an equal degree, of the results obtained with anti tuberculin. Some time ago Behring announced the successful completion of his attempts in searching for the antitoxin of the specific toxin of tuberculosis—"Koch's Tuberculin," and scientific physicians in general, judging from former experiences, appear to feel satisfied that the clinical results obtained with his antituberculin will not be published prematurely. Meanwhile the medical world is being entertained with the discovery of other "consumption cures," among the most recent ones appearing to deserve some attention is the anti-microbin of Dr. Langheld. While the greatest scepticism toward the new remedy is justly maintained for the present, it has met with a sufficiently favorable reception at the Charité Hospital in Berlin to be made use of in the wards for consumptives.

It is claimed that anti-microbin retains ozone for a long time in an unaltered condition, even when it is exposed to the air. By the entrance of ozone into the blood the new remedy is said to kill pathogenic bacteria. It is reported that the discoverer of anti-microbin will soon publish a history of the discovery and the particulars in the method of treatment. Dr. Langheld is the son of a chaplain in the German Marine. An attempt has been made by the advocates of the new remedy to interest the Government in the discovery. It is to be hoped that truth and fiction about the so far mysterious remedy will soon become evident by the complete and authoritative publication of particulars.

Physicians Arrested for Murder.

At Chattanooga, Tenn., Drs. R. J. Trippe and H. B. Wilson have been arrested on the charge of murder. At the same time suit was entered in the Circuit Court against the physicians for \$10,000 damages for malpractice. The prosecutor in both cases is R. A. Baker. Several weeks ago Baker's wife died, it is alleged, from the effects of chloroform administered by the physicians named, pending the removal of a cancerous growth on her gums. The suits entered were based on two counts, one charging that the defendants carelessly, negligently and recklessly administered chloroform; the second, that death resulted from strangulation by the physicians in performing the operation. It is charged that the woman's death did not result from chloroform, but from clotted blood that was allowed to run down her throat. A psychological study of the plaintiff in this case

would, in all probability, be of much interest. A successful issue of his treatment is the aim of every physician, no matter what may be the degree of his medical knowledge and experience. It is, therefore, exceedingly absurd to charge a physician with murder on account of a lethal issue of the case. If carelessness is opposed to be the cause of the patient's death, such carelessness must certainly have been unintended, hence no charge of murder is, under all circumstances, an improbability. It is safe to say that similar charges are always due to an unreasonable and revengeful spirit.

The President Elect of the National Association of Railway Surgeons.

Our readers will undoubtedly welcome the election of one of our editorial staff, Dr. Frank J. Lutz, as President of the National Association of Railway Surgeons, which met last week in this city. His ability and talent as a presiding officer is one of his well known attributes and his election, therefore, to the presidential chair is undoubtedly well merited. We take this opportunity of extending our congratulations to the Doctor.

The Arkansas State Medical Society.

The annual meeting of the Arkansas State Medical Society took place at Fort Smith, April 28-30. Many interesting papers were read and discussed and the meeting was one of the most successful ones ever held in that State.

The National Association of Railway Surgeons.—Election of Officers.

The ninth annual session of the National Association of Railway Surgeons held its final meeting in Pickwick Theater Friday, May 1, and adjourned at 1 o'clock.

The meeting was, as had been predicted, a most successful one, and all the members present were conscious of having spent their time profitably. The papers were of an instructive character and called forth interesting discussions. A number of the papers, read at the meeting, will appear in the columns of this journal at an early date.

The annual election of officers resulted as follows:

President—Dr. Frank J. Lutz, St. Louis.

Secretary—Dr. Cassius D. Wescott, Chicago.

Treasurer—Dr. E. R. Lewis, Kansas City, Mo.

The Committee on Nominations made the following report which was unanimously adopted:

Executive Committee—Dr. A. J. Bouffleuer, Chicago; Dr. J. N. Jackson, Kansas City; Dr. James A. Duncan, Toledo; Dr. J. B. Murphy, Chicago; Dr. W. S. Thorne, Toledo; Dr. W. S. Davenport, Iowa; Dr. J. A. Barr, McKees Rock, Pa.

Vice-Presidents—Dr. William R. Hamilton, Pittsburgh, Pa.; Dr. E. D. Eddy, Utica, N. Y.; Dr. J. H. Scher, Henderson, Ky.; Dr. Albert C. Wedge, Albert Lea, Minn.; Dr. Rhett Goode, Macon, Ga.; Dr. Albert Lee, Omaha, Neb.

Honorary Members—Dr. John B. Dearer, Philadelphia; Chauncey M. Depew, New York; Hon. Alex G. Cochran, St. Louis; Dr. J. W. Ayer and Dr. H. Darling, Cape Town, South Africa; Hon. B. L. Johnson, Kansas City, Mo.

The selection of the place for the holding of the next meeting was discussed and it was on motion agreed to leave the selection of time and place to the Executive Committee.

The cities of Pittsburg, St. Paul, Chicago and Toledo were suggested and a motion prevailed requesting the Committee to select one of these cities.

American Medical Association.

The American Medical Association met in its forty-seventh annual session at Atlanta, Ga., May 5, in the Grand Opera House at 10 o'clock a.m. The Association has over 1500 members, being the largest body of physicians and surgeons in America. The members come from every State and Territory in the Union. There were a few visitors from Canada and other parts of America, while Europe has several representatives.

The Opera House was beautifully and effectively decorated with palms. A row of small palms ran across the stage as far as the footlights, while further back, at the rear of the stage, the decorations were larger and more stately plants.

At 10:40 o'clock Dr. R. Beverly Cole, of California, President of the American Medical Association, rapped with his gavel and called the Association to order.

Addresses of welcome were delivered by Dr. F. M. Ridley on behalf of the physicians of Atlanta, and Dr. John T. Graves on behalf of what he called "the outsiders who have to take the doctors' pills."

Dr. Cole then delivered his annual address, in the course of which he noted the fact that seventeen years ago he was elected the first President of the American Medical Association at its meeting in Atlanta.

A memorial of the Medical Association of the District of Columbia was introduced, appealing for an expression of the opinion of the American Medical Association on the subject of vivisection. A committee of five was appointed to report on the memorial.

Dr. Reed, of Ohio, introduced a resolution for the appointment of delegates to the second Pan American Medical Congress, to be held under the auspices of the Mexican Government. The resolution was adopted.

Dr. John B. Roberts introduced a preamble and resolutions from the Philadelphia Medical Society asking that the next session of the Association be held in that city. The resolutions were referred to the Committee on Nominations.

National Confederation of State Examining and Licensing Boards.

This Association held its meeting in Atlanta, Ga., May 4, at the Hotel Aragon.

The American Academy of Medicine.

The American Academy of Medicine convened May 4, in Atlanta, Ga., at the Hotel Aragon. The city was thronged with physicians from all parts of the country, come to attend the annual session of the American Medical Association.

Among the interesting papers read at the meeting of the Academy, were the following:

"The Preparatory Mental Discipline for the Medical Student, and the Subjects to be Known Before Beginning the Study of Medicine," by F. H. Gerrish, Prof. of Anatomy, Bowdoin Medical College, Portland, Me.

"The Seminary Method," by Bayard Holmes, Prof. of the Principles of Physiology of the Illinois Medical College, Chicago.

"The Best Method to Teach Anatomy," by John B. Roberts, Prof. of the Principles and Practice of Surgery, Woman's Medical College, Philadelphia.

"The Best Method to Teach Physiology," by Charles D. Smith, Prof. of Physiology and Public Hygiene, Bowdoin College, Portland, Me.

"The Best Method to Teach Practice," by J. Wilson, Prof. of Medicine, Jefferson Medical College, Philadelphia.

American Medical Editors' Association.

This Association gave a banquet at the Kimball House on the evening of the of the meeting of the American Medical Association.

TRANSLATIONS.

BY EDGAR THOMPSON, A. M., M. D.

Semiology of Unilateral Rales.—There are unilateral rales heard at two points of the thorax in certain conditions. At the base of the left lung and in the superior part of the axillary line on the right side are the most frequent sites. These have been studied by Dr. Moncorge (*Lyon Med.*), who says that while the locality and pathology of the rales may vary within certain limits they have one clinical character in that they are unilateral.

The rales at the base of the left lung are very frequently found in emphysema. They are especially marked in a beginning case of emphysema, for when the dilatation reaches a certain stage the rales have a tendency to become bibasic, always, however, more marked on the left base. Two varieties of rales can be heard—medium sized and fine subcrepitant; both being frequently confused.

The coarser rales are more frequent, and present the classical characters of bronchial inflammation. They are heard on expiration and inspiration. The rales are greatly modified by respiration, and they are not constant—appearing and vanishing at irregular intervals.

The rales are never very numerous and are generally localized near the spinal column at the eighth or ninth interspace. Anything which increases the respiratory force and promote the local circulation causes a temporary disappearance of the rales. Exercise, prolonged cold douches, etc., suppress for a brief time the rales. The larger rales usually mask the finer as the emphysema progresses.

The mucous rales denote a chronic bronchitis or a congestion, with edema, which very often accompany emphysema. The base of lungs is not a site of predilection for the atomic lesions, but the rales are localized at the base through mechanical influences. On the left side the lung is badly supported by the diaphragm on account of the mobility of the stomach, and the full effect of gravity (with the tendency to hypostatic congestion) falls on the left base. This can be experimentally shown by a section of the pneumogastric which will cause a much greater edema of the left base than the right. At the left base also the rales linger the longest after an attack of asthma.

Rales at the left base have a diagnostic importance in other conditions. It is here the rales are heard in passive congestion, from whatever cause. The stasis of heart disease and vasomotor disturbances is first evidenced at the left base.

The edema of advancing nephritis will be discovered in the left lung before it is developed in any other locality. For a long time after pleuro- and bronchopneumonia and influenza the rales will linger at the left basilar region.

The author attributes a great diagnostic importance to rales at the base of the left lung as a symptom of incipient nephritis, and he has observed many cases in which he had made a provisional diagnosis of nephritis on account of the rales, and in most cases his suspicions were confirmed by the supervening arterial hypertension, albuminuria, etc.

The rales which are heard only on the right side are generally found at the middle or posterior axillary line and in the fourth or fifth space. They may be friction sounds or they may be broncho-alveolar. The alveolar rales are the more frequent, and they are crepitant sounds, and generally disappear on deep respiration. Another variety is a sort of sub-pleural crepitation; these are very fine and persist in spite of deep respiratory movements. In all cavities the adventitious sounds are unaccompanied by any other symptom of fever, etc. The author gives the history of several cases in whom these peculiar pulmonary sounds were detected without there being any other symptoms of disease.

The rales on the right side are very frequent. They are present in all diseases which influence the circulation in the lungs, and they constitute a symptom common to all affections of the right lung. They are, therefore, of value in diagnosing the location and intensity, but not the exact nature, of pulmonary diseases.

To understand why rales are so frequent in the right axillary region it is necessary to consider the anatomy

of that region. The upper horizontal fissure passes along the lower border of the fourth rib and the lower fissure, in the axillary space along the lower border of the fifth rib; hence, here over one spot can be heard any sounds which may occur in all these lobes; and the fourth space is a meeting point where sounds will be focused. Also, when one observes the union here of so many plural and pulmonary surfaces it is easily seen why the fourth space in the right mid axillary line is the site of election of pleuro pulmonary sounds. It is here that the pleura and lung multiply their points of contact. The author says it is a post-mortem fact that adhesions more often occur at this point than at any other.

Rales are often heard at the upper part of the left lobe, along the fissure, but they are never well marked, because there is only one fissure. It is frequently the case that all the lobes do not move equally on respiration, and this irregularity causes friction and compression at the point of union of these lobes, and adventitious rales will result.

Treatment of Burns with Picric Acid.—The action of picric acid when applied to burned surfaces has been extensively studied by MM. Thery and Papazoglou, and the latter has arrived at the following conclusion (*Ther. de Paris; Rev. Inter.*).

1. A solution of Picric acid acts as an analgesic upon a burned surface.
2. The acid also is strongly antiseptic and prevents the suppuration which is always so profuse from a burn. If suppuration has already begun, the application of the acid will cause it to cease.
3. Picric acid seems to stimulate cell growth, and it has marked keratoplastic properties and favors the production of epidermal tissue with a consequent rapid healing of large areas.
4. If picric acid is applied immediately after a burn it will prevent excessive cutaneous congestion and formation of blisters.
5. Picric acid in a saturated aqueous solution is incapable of producing any deleterious action on the skin or the internal organs; it has no irritating action, nor does it cause any symptoms when it is extensively absorbed. It can, therefore, be systematically employed in all cases of burns, large or small, superficial or deep, and it can be placed on the most delicate and irritable skin.

The technique of the application of picric acid is as follows:

If the burn is universal or very extensive in area, the patient should be plunged in a bath of a solution of the acid; if the lesion is circumscribed the surface should be cleansed antiseptically, and all blisters, if any are raised, should be opened. Linen compresses soaked in a picric acid solution are then applied. The compresses are immersed in the following solution:

Rj Picric acid, ...	3j.
Alcohol, ...	3ij.
Water, ...	3xx.

The compresses are covered with a bandage and left three or four days when a fresh compress is applied which can remain five or six days.

The author says the most severe burns begin to heal with the second or third application.

Application of Resorcin and Glycerin in Scarletinal Angina.—Mlle. Lefe has experimented with the local application of a 5 or 20% solution of resorcin in glycerin in the treatment of pseudo-membraneous angina, or the simple erythemas of scarlet fever (*Sem. Med.*). The application exerts a very favorable influence on the congestion and abridges the duration of the disease, and diminishes the danger of a superimposed secondary infection.

The technique is very simple: The throat should be cleansed with an antiseptic solution (boric acid) and the tongue pulled out and all parts of the throat thoroughly gone over with a swab soaked in the solution. The tonsils, uvula, base of the tongue and post. wall of the pharynx should be gone over. If necessary the whole mouth can be bathed with the solution. The mixture can be applied in any amount and frequency; it is very well borne by infants without seeming pain.

MEDICAL SOCIETIES

PROCEEDINGS OF THE ST. LOUIS MEDICAL SOCIETY.

W. H. FUCHS, M.D., EDITOR.

Stated meeting, Saturday evening, March 21, 1896; the President, W. G. MOORE, M.D., in the chair.

DR A. H. MEISENBACH presented a specimen of Gangrenous Gut which was resected in a case of

Strangulated Femoral Hernia.

The patient, a woman, 49 years of age, was first seen by the speaker Tuesday last, and the strangulation had then existed 36 hours. Taxis had been unsuccessfully employed, so that immediate operation was advised and performed in the hospital, but only after some argumentation by members of the family.

The femoral ring was found distended, and a knuckle of bowel had pushed itself through the saphenous opening. Poupart's ligament and the neck of the sack had to be cut before the constriction was overcome, but the bowel had become gangrenous. About twelve inches of the gut was excised and a lateral anastomosis, according to the method of Abbe, was established. This evening the woman's temperature is 99.8°F., pulse 100, respiration 25.

The chair announced that the discussion on Dr. Paquin's paper was in order.

DR. G. M. PHILLIPS had used the serum prepared by Dr. Paquin, and gave it according to the directions that accompany the package. The results have been so good that he has resolved to continue to use the remedy.

The first case had been referred to him as one of syphilitic affection of the throat, and clinically it resembled very closely the late syphilitic expression. The patient had received the specific treatment at the hands of several physicians before coming under speaker's observation, and was again given a month's treatment with heroic doses of iodide of potassium. No improvement resulted, thus strengthening the element of doubt as to the syphilitic character of the affection. Tuberculosis had been suspected and the diagnosis was confirmed by the finding by the microscope of abundant tubercular exudation. The serum was administered according to directions, and under that treatment alone, aided by good food, outdoor exercise and proper hygienic measures, he got well; and he is well to-day. That was over a year ago; the local manifestations have disappeared, and the general health of the patient is very good.

It is not possible to state definitely whether the serum has accomplished this result, but it was given according to directions and doubtless was of great benefit in bringing about the result.

The second case was one of pulmonary tuberculosis in the third stage, in a young lady, whom speaker was accidentally called in to see. A hurried examination gave distinct evidence of a cavity; the patient had been having hectic fevers for some time, had night sweats, was much emaciated, and had been gradually sinking for several months. Several members of the family had died of tuberculosis. It was suggested to the family to consult Dr. Paquin, and make arrangements to have his treatment given, as it was considered at least as good as anything else that could be done. The suggestion was acted upon, Dr. Paquin made the injections and the patient is to-day out of bed and has returned to work. The treatment was begun about one year ago and the improvement has continued.

In another case, almost a parallel one, the patient has not done quite so well, although there has been some improvement; improvement which, in speaker's opinion, could not have been obtained in any other way.

He hoped the essayist would continue with his experiments in this work, the good effects of which, he believed, were demonstrated in the three cases he had seen.

DR. AMAND RAVOLD was but imperfectly acquainted with the contents of Dr. Paquin's paper, owing to the fact that it was read very rapidly and indistinctly. From what he did hear, coupled with a number of points emphasized by the essayist in a personal letter, he was unable to see that the doctor had sufficient grounds upon which to establish a claim of having discovered a curative serum for tuberculosis. In his opinion the author has no bacteriological foundation for his treatment. He has not shown us from what source he obtains his cul-

tures of the bacillus of tuberculosis; how he grows the bacillus, and tests its virulence; how he produces the tuberculin he uses for immunizing them and the length of time it takes; how he treats the serum after he bleeds the animal, how he tests the serum, and how it acts upon animals; how long the poison (tuberculin) remains in blood of the immunized animal after a large dose is administered. We want to know something about these practical points, and the way in which the serum acts in the cure of tuberculosis in the lower animals, before we indorse its use upon man.

The microscopic lesions of tuberculosis are familiar to us all; the microscopic manifestations of the disease—especially Baumgarten's work upon tubercles of the iris—is not, speaker is inclined to believe, so well known. It may be well, then, in order to throw some light upon what we are to expect of a curative serum, to review the histological structure of a tubercle. When a bacillus of tuberculosis comes in contact with the tissues of the body it acts as an irritant and causes cell division, an increase in number by kariokinesis of the fixed connective tissue cells of the part, which cells form about and enclose the bacillus. This is the primitive tubercle. From the vessels of the infected area, leucocytes migrate in numbers and accumulate about the tubercle. For some reason, not well understood, the number of leucocytes attracted to the part varies greatly in different cases. Once formed, a tubercle undergoes caseation and sclerosis. The bacillus inclosed in the tubercle grows, multiplies and produces a poison that causes coagulation necrosis of the cells about it. The cells lose their outline, break down and are finally converted into a homogeneous substance, the cheesy degeneration and softening of the tuberculous mass. These masses break down, are absorbed, and the bacilli in them scattered throughout the body, each bacillus being the focus for a new infection. This is the destructive process.

If the vital conditions of the body are such that the activity of the bacillus is checked, with the necrosis at the center of the tubercle a hyaline transformation sets in, associated with an increase in the fibroid elements, so that the tubercle is surrounded by, and soon converted into, a firm, hard structure encapsulating the bacillus. This is the reparative process.

Does Dr. Paul Paquin's serum assist in the reparative process, and if so, how? May it not hasten the destructive process? I think it may if it contains tuberculin.

When Professor Koch put his tuberculin into the hands of the medical profession we thought that we had received "A Gift from the Gods." It proved a disastrous failure for the cure of tuberculosis, but is a remarkable and very valuable diagnostic agent in the hands of veterinarians. Virchow showed that as a diagnostic and therapeutic agent in man its use was dangerous. Tuberculin has no effect whatever on the bacillus of tuberculosis in the tissues, but exerts its deleterious action upon the reparative elements around the

tubercle. Old, encapsulated lesions were softened, broken down, absorbed, and the bacilli transported to new areas. Repairing tubercles were likewise softened and absorbed, miliary tuberculosis often rapidly follow ing its use.

DR. G. WILEY BROOME.—I should like to ask Dr. Ravold whether he accepts as a scientific fact the serum treatment of diphtheria?

DR. RAVOLD.—Yes, sir.

DR. BROOME.—Then I should like to have you explain how the process is affected in one case if it is not in the other. It is simply a scientific inquiry I am making.

DR. RAVOLD said he believed in serum therapy in diseases in which its efficacy had been demonstrated, but these demonstrations should first be made on animals before they are commenced on man. He considered nothing so good in diphtheria as the antitoxin; it is the surest remedy in the world. But Dr. Paquin had laid no foundation upon which we can base a belief; he has not shown, in the paper which he read nor in the letter which he wrote, that he has secured the antitoxin of tuberculosis. Niemann and Behring are working toward that end, and speaker feels satisfied that it is coming, but we want some proof to support the claim that it has been found by Dr. Paquin.

DR. A. H. MEISENBACH considered Dr. Ravold's position somewhat paradoxical. He believes in the serum of diphtheria and tetanus but does not accept the anti-tubercle serum. He asked the doctor to explain the pathological conditions in diphtheria and tuberculosis, and to show the distinction between them as to their antitoxins.

DR. RAVOLD said to do that would take more time than is at his disposal. Of course, both antitoxins might act in the same way. The antitoxin of diphtheria does not destroy the bacillus; it is simply antagonistic to the toxic products, and protects the cells of the body until the body is able to manufacture its own antitoxin. In tuberculosis we have two elements to deal with. One of the pathological products is the tubercular nodule, and another is the toxin produced by the bacillus. An antitoxin of tuberculosis will be antagonistic to that poison and assist the reparative process in the tuberculous man. If Dr. Paquin has discovered such a serum the whole world is indebted to him. All we ask is the proof, not his statistics of its use on man.

DR. BROOME could not see why we should refuse to use a remedy, if we know that it is good, simply because we are not able to explain the cause or manner of its action. We have been treating diseases empirically for six thousand years, and with as much success as we do scientifically. We can not always place our therapy on a scientific basis.

Speaker had recently operated on a boy, 17 or 18 years of age, who had osteal tuberculosis, complicated by extensive glandular inflammation. Numerous sinuses were discharging pus, and there was a bony sequestrum of the jaw, one of the hip joint and one of the tibia. The boy was very much emaciated and feeble,

so much so that it was feared he would not survive the operation. All sequestræ, except one or two about the hip joint, were removed, and the fistulous tracts were laid open, cleaned out thoroughly and packed with iodoform gauze. The serum of Dr. Paquin was administered, and the boy immediately began to improve. The improvement has steadily increased, the boy has gained considerably in weight and all the sinuses have closed, save the one leading down to the hip. Of course, the sequestration is not necessarily due to the action of the tubercle bacillus, but as a sequence of the tubercular process. Whilst the boy would not have recovered without operative interference, from his observation of this and other similar cases, speaker was inclined to regard the improvement in this case as the result, in part, at least, of the serum. Clinically, here was a perfect tubercular case.

DR. MEISENBACH asked the speaker whether any bacilli were demonstrated in the local lesions, and whether any bacteriological experiments were made with the matter taken from these localities.

DR. BROOME replied that these sinuses were all complicated with mixed infection and were discharging pus freely. He could not say definitely whether they eliminated tubercle bacilli, but was satisfied, from the clinical picture, of the tubercular character of the trouble.

DR. ROBERT FUNKHOUSER said the present status of pathology is such that tuberculosis of the bones is not recognized where sequestræ are present. In the past, and at the present time osteomyelitis has often been overlooked and classed as tuberculous disease simply because there was joint involvement.

DR. BROOME.—My impression has been that 97% of them are due to tuberculosis.

DR. FUNKHOUSER said that this view is not accepted by Warren and others, who state that many cases of syphilitic necrosis and osteomyelitis have been mistaken for tuberculosis. Judging from his own experience, speaker was inclined to regard as chronic osteomyelitis all those cases in which there are sequestræ, where a number of points are affected, where there are sinuses, especially if these latter are in the neighborhood of joints and epiphyseal lines. He could not accept the case as one of tuberculosis, from the description that has been given to night, unless the tubercle bacillus is demonstrated; or unless it be produced from the pus of the sinuses by injecting it or cultures from it into animals.

The point made by Dr. Ravold, in regard to the solvent action of tuberculin on the limiting or protecting membrane, is very important, as much harm has been done by the use of this remedy. This action is of interest in connection with lupus, which, by some, is classed with cancer, by others with tuberculosis. It would appear, from the reports of some observers, that tuberculin clears up lupus, and apparently the patient recovers:

As to the therapeutic result from the serum in tuberculosis, we must remember that tuberculous patients

are apt to imagine themselves benefited when they are undergoing any new treatment. The fruit treatment, with observance of hygienic rules and proper environments, has probably accomplished as much as any other. But we must not mistake symptoms for results, and it will require demonstrations upon animals, from which to adduce definite data, before we can accept it as a remedy in man.

DR. FRANK A. GLASGOW counseled conservatism in the indorsement of a remedy about whose scientific development, production and therapeutic merits so little is known by the general profession. He had not had the good fortune to hear Dr. Paquin's paper, but he had read the abstract which the essayist had furnished Dr. Ravold, and also the communications on the subject appearing through various mediums, and he has, in consequence, a general knowledge of what has been done. Dr. Ravold's remarks, as to what Dr. Paquin is doing and what features of his work require further detailed explanation, seem to the speaker to be pertinent. All previous investigations made by scientific men were conducted on strictly scientific principles, and the results were published only after years of labor and experimentation with the respective remedies on lower animals with a predisposition to tuberculosis. The publication of the results of Koch's researches was premature, but he was forced to make the publication. We all know what the result has been; the man himself, the whole cause of bacteriological investigation and the whole world have suffered in consequence, and the medical profession has been held up to derision and ridicule to a certain extent.

The speaker considered Dr. Paquin's investigation too incomplete to be given to the general public. He has not told us exactly how he arrived at his result; he has not demonstrated the efficacy of the remedy on the lower animals, and before this has been done its use upon human beings is unwarrantable. He is in duty bound to answer the questions propounded by Dr. Ravold.

We know how many thousand "cures" have been offered to the public, and with what avidity consumptives grasp at these things, no matter what the probabilities are. That is not science. The value of a remedy should be proved pretty conclusively before we experiment with it on human beings. We have not yet accepted antitoxin in any diseases except in diphtheria and tetanus, and the Society should not countenance a remedy until it is shown conclusively to the profession that the product is beneficial without doubt.

DR. I. N. LOVY said he could discuss the subject only from a clinical standpoint, since he had never made personal microscopical observations, and has always accepted the reports of the specialists in this field as he would in the case of any other specialty. Dr. Paquin's work is well known, especially in connection with the investigations of pleuro pneumonia in cattle, his opinions have been accepted by the American Public Health Association, and there is no reason why we should not

now accept his results in bacteriological research into the subject of tuberculosis.

The serum treatment of diphtheria has been discussed the world over during the past two years, and the great majority of reports have presented the subject from its clinical aspect. Some have been unduly enthusiastic, but the proper spirit in which to discuss the subject is the receptive one; we should admit all the evidence offered, weigh it carefully, and arrive at a conclusion after mature deliberation. Speaker had always assumed a conservative attitude in the serum treatment of diphtheria, and views the subject under discussion in the same light. Cases had been treated with the serum under his own observation, he had seen the results of the treatment in cases in charge of Drs. Lemen, Loeb and Paquin himself, and at the City Hospital, and in a number the results were very encouraging. One report was from a physician in Philadelphia, who was enthusiastic over the result achieved in his own case. He had gained in flesh, his cough was diminished, he had fewer night sweats, appetite had improved and he felt better generally under the use of the injections. Another physician in this city reported favorably in his own case.

Speaker had heard the injection of horse serum in consumption condemned severely. If it is honestly given then there is no more reason why it should not be administered in consumption than there is in giving creosote. We are justified in using any remedy if the clinical results are good, whether we can explain its action scientifically or not. We have been treating diseases empirically since disease have been treated at all; the majority of our remedies are used empirically, and we can afford to accept any one of which we know that is of benefit to the patient.

Speaker considered Dr. Paquin's claims very modest; and in no paper read by him has he done anything but report progress.

DR. PAUL PAQUIN regretted that his reading was so poor as to prevent some members from hearing his paper, but he regretted more that about eight pages of explanations, as to the manner of deriving anti-tubercular serum, had escaped the notice of some of his critics. However, they are contained in the paper, and since the paper will be published they may be read at leisure. These explanations cover all the questions put by Dr. Ravold and Dr. Glasgow, and it would consume too much time to cover the ground again now.

Personalities, in his judgment, have no place in scientific discussions, and it is wrong to question the honesty and integrity of a man, because of a difference of opinion on a scientific subject. He had made no claim that he is not able to prove; his laboratories are open for inspection to any one who may choose to investigate the various steps employed in producing the serum; and any one of the living patients will be produced for examination by any physician, providing an opportunity is given for making a special appointment. Any points bearing on any phase of the subject will be fully described in a special paper if so desired. In regard to

testing the serum on animals before using it on patients, speaker said he was sorry this part of the subject had been suggested, as he did not wish to allude to his experiments. However, he felt constrained to make the statement now, that some of the serum produced from each animal he injected into his own veins before using it on any other person.

Speaker said that the only excuse he has to offer for using the serum in consumption is the success he has had with it. The last few pages of the paper give the result in all cases, and it will be found that the great majority of cases reported have died. The reason, of course, why some cases are benefited more than others, is because we see them at an earlier day. If we see the case at an early period in the development of the disease the effect of the serum is apt to be more favorable, but where cavities are already formed they can not be eradicated; they will probably always remain, but the process may be checked.

DR. GLASGOW.—I should like to ask the Doctor if he does not treat patients in the last stage of consumption with the serum, and if these patients do not die?

DR. PAQUIN replied that he certainly does take such cases, how could he have otherwise determined the effect of the serum in this stage of the disease. But he treats these patients as any other physician would do, with such remedies as he thinks will do the most good. He does not take them for the purpose of trying to accomplish a cure, but merely to do the greatest amount of good, and he uses the remedy which, in his estimation, will best accomplish this purpose.

The action of all serum is probably based on the same physiological principles. This one certainly is not a germicide; it does not kill the bacilli, but acts by neutralizing the effect of the poison of the bacillus, until Nature can assert herself and destroy it.

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DR. GEORGE WILEY BROOME read a paper (see REVIEW, April 4, p. 240) entitled

A Summary of a New Method for the Radical Treatment of Cancer of the Cervix.

DR. A. H. MEISENBACH failed to see any new suggestions in Dr. Broome's paper. All the ideas in the paper as to the technique of removal, extent of tissues to be eradicated and route for their removal have been suggested by writers in this and other countries. The suggestion, that every surgeon should make his own microscopical examinations, speaker considered impracticable. He used to make his own examinations, but is perfectly well satisfied at present to send the specimen to a pathologist in whom he has confidence, and to accept his diagnosis as final.

A carcinomatous mass should not be removed without protecting surrounding parts from infection. We know of the absorptive power of the peritoneum and the increased danger, in consequence, of carcinomatous infec-

tion through this avenue. For this reason the carcinomatous uterus should not be removed through the abdomen.

DR. I. N. LOVE, too, thought it more practical for a busy surgeon or general practitioner to turn over his microscopical work to a specialist. He has usually made a diagnosis before examining the specimen microscopically, and it is for the purpose of a confirmation of the diagnosis that the examination is made. It is therefore better that we seek it through others, competent persons in whom we have confidence.

DR. FINLAY was one of those who believed in using the curette in certain advanced cases of carcinoma of the uterus. The gynecologist often sees cases of this kind which have progressed beyond the point of relief by removal; patients who are dying from the great loss of blood and septic infection. He did not wish to make any positive claim, but believed that life is prolonged in such cases by thorough curettement and packing with antiseptic material.

DR. ROBERT FUNKHOUSER agreed with Dr. Meisenbach in his remarks on the paper presented. He did not accept the essayist's statement, that cancer develops only in the case of women who have sustained a laceration of the cervix at child birth or by instrumentation. Cases are on record, and speaker has seen instances, of cancer of the cervix in women who had never borne children.

One of the most important features in connection with the removal of a cancerous uterus is the difficulty encountered in determining exactly how far the disease process has progressed, and what tissues have become implicated by it. We know that scrapings or small sections of mucous membrane of the uterus are not sufficient to microscopically determine the presence or absence of cancer. The disease must have progressed into the muscular structure before this examination will be of any positive diagnostic value. After the lymphatic glands have become involved it is almost useless surgery to attempt the radical removal of the cancerous mass. Even if the broad ligaments be removed as far as their attachment to the pelvis the hope for a permanent cure is only infinitesimal. The most favorable cases imaginable, so far as lymphatic implication is concerned, have been followed by an apparently perfect cure, but the disease has returned after a short period of apparent health. It is impossible to tell when the disease has progressed beyond our control, and, as Dr. Finlay suggests, curettement gives more satisfaction in many cases than amputation of the cervix. It is often better to limit an operation to a thorough curettement, unless the patient insists upon a more radical course.

When it has been determined that the uterus must be removed the vaginal route is undoubtedly the best from a standpoint of scientific surgery. The success attending the vaginal operation in the hands of such men as Pozzi, who in 800 cases, and the elder Richlot, who reports 500 or more, ought to determine one in the choice of the particular method.

The ideas advanced in connection with the origin of cancer are still purely theoretical, although some seem to have a better foundation than others. The idea of a post natal matrix is being relegated to the past. It has been demonstrated that a tuberculous, syphilitic or any simple inflammation may assume a cancerous nature at any period in its existence. Thus, syphilitic lesions have become cancerous even before they had healed.

As to the treatment of cancer, it is well enough to try anything that may come into our hands, providing it is from a proper source; and speaker is willing to, and does, advocate the use of streptococci of erysipelas, but up to within six months ago this treatment has been a failure. Probably they have since then perfected the manner of its use, and the technique involved, but up to that time the results had not been satisfactory.

So far as he could determine no radical treatment for the cure of cancer had been presented to-night, and some of the points suggested are questionable from a surgical standpoint. If we find that a cancer is confined to the neck, and by a very careful examination we fail to determine implication of the lymphatic glands, vagina, rectum or underlying structures, it is, of course, proper to remove it, including the surrounding lymphatic glands if possible. In all other cases it is probable that the operation will be without permanent relief.

ABSTRACTS

MEDICINE.

The Guaiacol-Carbonate Treatment of Typhoid Fever.—Dr. S. Fraenkel (*Wien. Med. Blatt.*, February 27, 1896), writes editorially on the treatment of typhoid fever and phthisis by guaiacol-carbonate as follows:

In the year 1894, Dr. Hoelscher first called attention to the advantages accruing from the use of the neutral carbonic acid ether of guaiacol—guaiacol-carbonate, in the treatment of typhoid fever. He shows more especially that the site of decomposition, therapeutic action, and resorption of the drug is to be found almost exclusively in the small intestine. The fever is not influenced by it when antipyretics are not given; for guaiacol-carbonate has no such action; but the temperature falls with greater rapidity and certainty when guaiacol-carbonate and antipyrin are administered together than when antipyrin is taken alone. He found that there frequently occurred a small fall a few hours after the first dose of 1 to 2 grammes (15 to 30 grains). This was a direct consequence of its local action in the intestines, and was of good prognostic significance. When guaiacol carbonate was given early it was frequently unnecessary to treat the fever at all, and the disease ran a rapid course. Dr. Seifert proved the non-

poisonousness of the combinations of guaiacol and creosote with carbonic acid.

There has lately appeared a very exhaustive study made by Dr. Eschle in Prof. Dr. Baumann's physiologico-chemical laboratory in the Medical Department of the University of Freiburg, which contains much interesting information concerning the conditions that govern the absorption and excretion of guaiacol and guaiacol-carbonate.

He summarizes his results as follows:

Both the absorption and the excretion of pure guaiacol occurs very rapidly. Guaiacol-carbonate is disassociated and rendered capable of being absorbed only by putrefactive processes under normal conditions, therefore, when there is intestinal putrefaction. The duration of the excretory process does not differ markedly from that of pure guaiacol. Hence, and also from the further fact that by the long continued use of guaiacol and guaiacol-carbonate in medicinal doses in man, and even in toxic doses in dogs, the increase of ethereal sulphuric acid at the expense of the sulphuric acid is constant in amount, there can be no cumulative action of the drug. And guaiacol carbonate seems to be more thoroughly used up, the smaller and the more frequent the doses in which it is given. The explanation of this is to be found in the fact that the administration of large doses interferes with intestinal putrefaction and prevents the decomposition of the carbonate. In phthisis, therefore, Eschle recommends administering a dose of 0.3 to 0.5 gramme ($4\frac{1}{2}$ to $7\frac{1}{2}$ grains), of the carbonate four times daily.

After a very large dose of guaiacol there appears in the urine an organic body of as yet an unknown nature. Hydrochloric acid precipitates it in tough mucous like flakes, and it might thus occasion occlusion of the uriferous tubules and stoppage of the function of the kidneys, thus fatally damaging the organism. This body was never observed when guaiacol-carbonate was administered; proving, as Seifert has already shown, that whilst guaiacol in large doses is poisonous, guaiacol-carbonate is not so.

Dr. Arthur J. Hall, of Washington, D. C., in a letter to the editor of the *Journal of the American Medical Association*, dated March 12, 1896, and published in the issue of March 21, 1896, discusses the so called Woodbridge abortive treatment of typhoid fever. At the meeting of the Mississippi Valley Medical Association at Hot Springs, November 21, 1894, Dr. Woodbridge, as the result of several years' experience with this treatment, recommended three special formulæ containing guaiacol-carbonate to the extent of $33\frac{1}{3}\%$. Dr. Hall admits that he has tried the Woodbridge treatment of typhoid fever in a number of cases with excellent results, and he believes that many of the claims regarding the amelioration of symptoms are well founded. But the same excellent results have occurred when guaiacol carbonate was used alone, or in conjunction with mild laxatives and enemata when such were indicated. He believes that the good results obtained should

be credited to the guaiacol-carbonate alone; since the other ingredients of the formulæ (thymol, menthol, eucalyptol, podophyllin and calomel) were in more or less constant use before the latter had been placed upon the market and had failed to accomplish similar results.

Dr. F. M. Greene, of Lexington, Ky., in an article in the same journal, of April 4, 1896, discusses the etiology and treatment of typhoid fever, and more especially the so called Woodbridge treatment.

By this antiseptic and disinfectant method, he claims, we have really only two periods to this formidable disease; first, a period of rapid reduction of temperature, and secondly a period of convalescence. By destroying the germs early in the attack, and before the development of the toxins, we at once abruptly interrupt its course and prevent the complications so frequent when the disease has existed for any great length of time. Tympanites, when present, disappears; dry tongue and delirium are prevented; diarrhea ceases; pyrexia stops by the tenth or twelfth day and the patient at once enters upon a favorable convalescence.

Dr. Greene believes that these results are brought about by both intravascular and intestinal disinfection. Intestinal disinfection has long been known to be an important indication in the disease; but the difficulty has been to find a remedy that will accomplish this, and at the same time be harmless to the system. He believes the guaiacol to be the active agent in the treatment. It can only be used, however, in the innocuous and non-irritant form of the carbonate of guaiacol introduced by von Heyden. Decomposition occurs only after it leaves the stomach; carbonic acid and pure guaiacol are set free, and the latter then exerts its proper medicinal effect.

SURGERY.

Colotomy for Membranous Colitis.—Hale White and Golding Bird reported before the Clinical Society of London (*La Med. Mod.*) a case of membranous colitis treated by right colotomy and subsequent closure of the wound. The patient, a young man of 30 years, began to have mucous rectal discharges, with constipation, in 1885. These symptoms grew more marked until 1891, when he began to experience violent abdominal pains. The next year the passages were often made up of blood and mucus, and the pain was almost unbearable. This condition continued until 1894, when tubular moulds were discharged. The pain was so severe and constant that he was kept in bed most of the time, and for the relief of obstinate constipation strong purgatives were required. In 1895 his condition was the same. There was marked tenderness over the ascending colon and sigmoid flexure. Dilatation of the lower bowel showed long tubular moulds mixed with blood and feces. Since he had been subjected to every form of treatment for ten years, including prolonged

rest and thorough trial of various mineral waters, right colotomy was performed, the gut being secured in the wound May 10, and opened May 17. Three days later the colon was irrigated with hot water from the artificial anus to the natural opening, but even during this time membranes had ceased to form. For five weeks all the passages escaped through the artificial anus, without requiring the administration of purgatives. The discharges were of normal fecal matter. At the end of this time, all the symptoms of which the patient previously complained having disappeared, the colotomy wound was closed and peristalsis was arrested by means of opium for a week. Compound liquorice powder was then given; the resulting passage contained neither mucus nor blood. Patient's general condition steadily improved, and on July 24, he departed for the country, feeling much better than for many years, and not having had any blood or mucus in his stools from the period of operation.

The authors believe that in grave cases of membranous colitis such treatment is not only legitimate but extremely desirable, since thus the colon may be given absolute rest. It is true of this patient that he has since died, but apparently from causes not connected with the operation.

Adney stated he had seen this patient the last two days of his life, and at that time the symptoms were those of acute peritonitis. Rectal examination showed a swelling which he believed was a suppurating lymphatic gland, rupture of which he thought had caused general peritonitis. Patient stated he had not had any return of colitis.

Adney also reported the case of a woman who was suffering from severe dysentery. Left colotomy was performed with the idea of applying nitrate of silver or other suitable agents to the affected portion of the gut. The entire mucous surface was found covered with polypoid growths several inches in length. The patient grew better after operation, and died later from causes not connected with her dysentery.

Balance opened the ileum, securing the ends of the gut in the abdominal wound. The lower end he used as a means of applying lavages, which were made several times a day. The patient grew better at first, but died some days later of hypostatic pneumonia. In this case the ulcerated intestine readily absorbed toxic products, but was unable to fulfill any of the functions of normal mucous membrane. Hence nothing was gained by diverting the large intestine from the alimentary canal.

Turner expressed the hope that this method would be employed in cases of ulcerative colitis.—*Therapeutic Gazette.*

Some Results of Anastomosis with the Murphy Button.—Richardson (*Boston Med. and Surg. Jour.*) reports three cases of lateral anastomosis by means of the Murphy button. After briefly discussing the advantages and disadvantages of this button,

he states that when the patient's condition justifies a deliberate technique he prefers to dispense with all appliances except a needle and thread. He does not regard the application of Murphy's button as brilliantly successful.

His first case was one of cancerous stricture of the colon at the splenic flexure. The abdomen was opened for the relief of acute obstruction. The cecum was found intensely distended, the sigmoid flexure collapsed. Manual exploration showed an indefinite mass in the region of the splenic flexure of the colon, probably a cancerous stricture of the colon. The patient's condition was so alarming that no radical measures seemed justifiable. The cecum and sigmoid flexure were brought into apposition, and lateral anastomosis made by means of a Murphy button. The moment the cecum was incised for the insertion of one-half the button, there was a burst of gas and liquid feces which flooded the whole field of operation, running among the intestinal coils and into the pelvis. The two halves of the button were applied so that the joint was not tight. This defect was remedied, after a fashion, by the application of a few sutures. Gauze drainage was employed, and good recovery followed. In two weeks there was a slight fecal discharge through the wound. The bowels began to move immediately and satisfactorily. The patient was up and able to attend to her duties in the course of a few weeks. The button was never found in the feces.

About five months later, symptoms of chronic obstruction developed. The abdomen was opened through the scar of the first incision, and under this the intestines were found firmly and densely adherent, not only to the scar itself, but to each other. The coils being separated sufficiently, exploration of the upper portion of the abdominal cavity and the region of the anastomosis was made. The button could not be felt; nor could the original disease which had been located in the splenic flexure of the colon. The cecum was moderately distended, the sigmoid flexure collapsed. No signs of an anastomosis, and no communication was supposed longer to exist, though the coils through which the anastomosis was made were not separated, and a small communication might have escaped notice. A second anastomosis was made near the site of the first. This time the operation was satisfactory and the joint perfect. Prompt recovery followed. The bowels moved freely and regularly, aided by *cascara sagrada*. The patient was discharged entirely relieved of her obstructive symptoms in a month. The button never appeared. She remained well for four months, when she was seized again with acute obstruction, causing death.

Autopsy showed both buttons free in the transverse colon. Both anastomoses were still patent. Cause of death was internal strangulation. Constriction of the colon was found at the position of the splenic flexure. This had narrowed the lumen of the tube to less than the size of a lead pencil. Both anastomoses were abundantly large.

Richardson also reports the case of a man, aged 63

years, with cancerous stricture of the pylorus, symptoms dating back nine months. Anastomosis was made between the jejunum and the posterior wall of the stomach, the joint being perfect. The operation lasted about five minutes, and was in every way satisfactory. The patient perished with symptoms of peritonitis six days after operation.

At autopsy the ring of gastric mucous membrane, compressed by the button, was necrotic; the gangrenous process had, moreover, extended into the stomach-wall. The gastric contents had escaped and caused a fatal peritonitis — *Ther. Gaz.*

NOTES AND ITEMS

The Missouri Pacific Railway to Sedalia.

—The most direct route from St. Louis to Sedalia, in which city the Missouri State Medical Association will convene in annual session May 19, is via the Missouri Pacific Railway, which company has made a rate of one and one-third fare for the round trip to physicians who wish to attend. This safe, reliable and picturesque road offers you the choice of three daily trains, leaving St. Louis at 3 and 9 o'clock A. M. and 8:20 A. M. The 3 o'clock A. M. train is composed entirely of sleepers which can be occupied at any time after 9 o'clock in the evening, thereby enabling you to practically save a night, this train arrives in Sedalia at 7:50 A. M. Call and secure your accommodations from Mr. H. C. Townsend, General Passenger and Ticket Agent, Northwest corner Broadway and Olive street, St. Louis.

Dr. Charles A. L. Reed, of Cincinnati, has been selected by the European Committee on Organization of the International Periodical Congress of Gynecology and Obstetrics as Honorary President of the meeting of that body to be held in the City of Geneva, Switzerland, the first week in September of this year.

Reward for the Discovery of a Cure for Tuberculosis.—Mme. Audrifred has given to the Paris Academy of Medicine \$160,000, on condition that the same be securely invested and the income be paid yearly to the man who discovers a specific remedy for consumption, whether a Frenchman or a foreigner, when it can be definitely decided that such a remedy has been discovered.

The Medical and Surgical Society of Western Illinois.—This Society met at White Hall, May 4. The annual election of officers resulted as follows: President, Dr. H. W. Chapman, of White Hall; First Vice-President, Dr. English, of Grafton; Second Vice President, Dr. Black, of Jacksonville; Secretary and Treasurer, Dr. H. R. Gledhill, Jacksonville.

Censors, Drs. Barnett, Jerseyville; Willard, Manchester; Dalton, Scottsville. Attorney Charles N. Noble, Jerseyville, read a paper on "Medical Jurisprudence," and Dr. Gledhill one on "Drunkenness," both were discussed at some length. The next meeting will be held at Carrollton on the first Friday of August next.

A New Departure at Harvard University.—Through the munificence of a prominent merchant of Boston, whose name is not made known, Harvard University is to have another department, and a most important one, added to its medical school, that of comparative pathology. The benefactor advances the sum of \$100,000 for the endowment of the chair. This will be the first establishment of a professorship of comparative pathology in any of the great universities of America. The professor is to be a member of the medical faculty of Harvard University and is to study the conditions and causes of disease in both men and animals, and the means of avoiding and curing disease. He is to devote himself to the duties of his professorship without engaging in private practice.—*Information.*

Women's Medical Progress in Russia.—The plans and drawing of the Women's Medical Institute, the new Russian college for granting medical diplomas to women are complete. The building operations will begin next month, and it is hoped that they may be finished in time to open the new institution in Aug., 1897. It has been liberally subsidized by the Government and by the municipality of St. Petersburg, and private subscriptions and donations have been neither few nor small. At present the whole capital amounts to about 800,000 roubles (\$320,000). But of this at least 450,000 or 475,000 roubles will be required for building and furnishing the institute. The late Professor Tchudnoffski, whose recent death has created a vacancy in the chair of General Therapeutics in the Army Medical Academy, has left to the Women's Medical Institute his entire medical library, containing over 4000 volumes. The number of students who will be admitted to the courses at first is fixed at 125. Already over 100 applications have been received.—*Information.*

Radiograph of His Own Skull.—Dr. Arthur W. Goodspeed, Assistant Professor of Physics at the University of Pennsylvania, has taken a radiograph of his own skull. All the small bones of the face, particularly those about the mouth, are clearly shown in the picture. The teeth are distinct, and even fillings which have been inserted in some of them are sharply defined. The rays completely penetrated the nose, and therefore shows little of that organ on the plate, except the small nasal bone projecting from a point beneath the frontal bone of the skull. The thick cartilages surrounding the vertebrae of the neck were also thoroughly penetrated, and six vertebrae may be counted with ease. The plate was placed by Dr. Goodspeed against the right

side of his face and bound with a gauze bandage. On the other side, eighteen inches away, was the tube; the exposure lasted only twenty minutes, a remarkably short period, considering the subject. Dr. Goodspeed has demonstrated that an X ray picture can now be taken in four and one-half seconds, which is probably the lowest limit which has ever been reached.

The Late Dr. Cheek, Medical Missionary to Siam.—The late Dr. Marion A. Cheek, of Oakland, California, had a romantic history, as reported in the San Francisco *Examiner*. The survivors of Dr. Cheek have a claim, growing out of his adventurous career, against the Siamese government for \$80,000, the value of 176 elephants that were once his property, but which were, it is alleged, unjustly confiscated by the government. The *Examiner* says: "The story of Dr. Cheek's adventures in the East reads like a romance. He went to Siam a missionary of the Christian religion. His knowledge of medicine stood him in good stead. He ingratiated himself into the hearts of the princes of the land as well as the lowly natives, who saw in his remarkable cure of disease an unfathomable mystery. Dr. Cheek was an American; he overlooked no opportunity to better his condition. He gained valuable concessions from the Siamese government and established the business of logging teak timber to Bangkok, the capital. The returns were so great that some of the native princes in the interior cast longing eyes upon the profits the American was turning. One of them suggested a partnership. Dr. Cheek was loath to accept the proposition, but he decided that his own welfare demanded that he join hands with the dusky prince. The Doctor had an agreement with his princely partner as to the distribution of the labor. Cheek agreed to do the actual work. He went five hundred miles into the teak timber district and hired many native laborers; he likewise secured 176 elephants. The Doctor had indifferent success one season; the river was low and no logging could be done. The prince became dissatisfied. He was appeased, Dr. Cheek thought, the following year, when a double quantity of timber was floated into Bangkok. Then the trouble commenced. The government took a hand. The Doctor's prince partner assigned his interest in the firm to the royal family. The ruling powers were becoming dissatisfied with foreign interests and their extension in Siam. The excuse was readily found for action. The failure to make a shipment of timber in one season opened the way. The government stepped in and confiscated Dr. Cheek's plant, elephants and all. This summary action ended the Cheek logging business. Minister Barrett at Bangkok has made every effort to bring the matter to a focus. The Siamese government is said to be desirous of submitting it to arbitration. The will of Dr. Cheek has been filed and probated in Alameda county. His widow and two children now reside in Oakland. They have local counsel, who are pressing the payment of the claim to their utmost."—*Jour. Am. Med. Ass'n.*

PUBLISHER'S DEPARTMENT.

WRITE to Phenique Chemical Co., St. Louis, mentioning the **MEDICAL REVIEW**, and receive by mail, free, one-half ounce Campho-Phenique Powder—a valuable antiseptic.

FOR COMPLETEST STOCK OF ANTITOXINS AND PHYSICIANS' SPECIALTIES in the West, we refer you to T. A. Klipstein, 1601 Franklin Ave., St. Louis. His goods are reliable.

WRITE Messrs. Feick Brothers, of Pittsburg, Pa., for their catalogue of surgical instruments and appliances. They are a progressive and reliable firm. See their advertisement in this issue.

THOSE of our readers who are not yet familiar with the Dry Cell Batteries should send 4c in stamps (cost of mailing) to the Chloride of Silver Dry Cell Battery Co., of Baltimore, Md., for one of the most complete catalogues on this subject published.

WHY BUY HIGH-PRICED THERMOMETERS when \$1.25 will buy a Taylors' Certified Clinical Thermometer? This Instrument has been thoroughly tested and always gives satisfaction. Write Taylor & Bro's. Co., Rochester, N. Y., for complete catalogue.

THE COLUMBUS PHÆTON CO., of Columbus, Ohio, make a specialty of Physicians' Phaetons and are in a position to furnish them at a very reasonable price. Their workmanship is of the very best and durable. Any physician desiring a vehicle of this kind should correspond with this firm. They will send an illustrated booklet and price-list on application.

THE IDEAL PULMONARY INSPIRATOR is creating considerable interest in the treatment of the respiratory organs. It is highly recommended and indorsed by some of the leading members of the profession. A complete description, etc., will be furnished free on application to the manufacturers, G. B. Underwood & Co., 15 E. 14th Street, New York City.

IMPORTANT NOTICE TO PHYSICIANS.—Commercial imitations of betanaphtol-bismuth, and labeled as such, have recently been placed on the market, and have been found to cause unpleasant symptoms and do the patient harm rather than good. Dr. Chaumier has proved this to be the case with certain French preparations. They consist mostly of mixture of bismuth and free naphthol and hence have a burning taste and an irritant action upon the gastro-intestinal canal. The genuine compound of Von Heyden, in Radebeul, near Dresden, is the one with which Drs. Fischer and Wilcox, of New York; Engel, of Philadelphia; and Chaumier, of Tours, obtained their brilliant results. It contains no free naphthol, the combination with bismuth being a chemical one, hence has neither the unpleasant taste nor the irritant action of the imitative mixtures. In the interest of the physician, as well as that of the patient. Von Heyden has named the true betanaphtol-bismuth "Orphol" under which it will be sold. By prescribing it under this name, the genuine article will always be obtained.

The neutral non-toxic and non-caustic antiseptic and astringent "Orphol" (betanaphtol-bismuth) was discovered in the scientific laboratory of the chemical factory of Von Heyden, in Radebeul near Dresden, and is put up only in 1 oz. vials. It is important for the physician to be certain that the preparation used bears the name of these manufacturers, together with that of SCHERING & GLATZ, No. 55 Maiden Lane, New York, Sole Agents for the United States and Canada.

WE ARE IN RECEIPT of a beautiful booklet entitled "Urethral Diseases," gotten up in the most novel and artistic style of the printers' art by the RIO CHEMICAL COMPANY of St. Louis, the well-known manufacturers of standard specialties. We are informed that they will send this interesting book free to the readers of the **REVIEW** by mail upon application.

NO PREPARATION IN THE WORLD EQUALS IMPERIAL GRANUM for the purpose it is intended. As a medicinal food in all ailments of the stomach or bowels, for children, for convalescents, or any of the delicious forms in which it may be prepared for the table, it is unequalled. While 25 years ago it was used chiefly as food for children, to-day it is sold in large quantities as an article of daily consumption for the strong as well as the weak. Nothing has ever been invented to take its place and probably never will be.—*Troy, N. Y. Times.*

CYCLING AND THE SADDLE.—Bicycles have taken the country and the world by storm and are fast coming into universal use. That they have accomplished no end of good none will dispute; that they have brought with them certain evils, though not perhaps understood by people in general, is distinctly recognized by the medical profession. This does not result from any defect necessarily inherent in the bicycle, but from faults in its construction, particularly in the saddle employed. Speed has been quite generally the object primarily aimed at, the health of the rider being given very little consideration.

From a medical standpoint bicycle saddles are, as a prominent New York physician expressed in a recent article, physically and morally injurious. The entire weight of the body comes on the soft tissue of the pelvic floor. The sensitive tissues, subject to such pressure and irritation, must suffer, and the evil can not yet yet be estimated."

As all physicians are well aware, few persons afflicted with urethral, prostatic or bladder trouble are able to ride a bicycle without materially increasing the difficulty. This must be distinctly charged to defective saddles, and the same cause will produce disease in perfectly healthy people. Hence the importance, the absolute necessity, of using a proper saddle can not be exaggerated.

As the writer referred to aptly expresses it: "A perfect saddle for either man or woman is one that will maintain the body in an easy and proper position. It must be a surface large enough to receive the tuberosities so that the weight comes on the gluteal muscles. It should have, like an army saddle, a hole in the center, to relieve any injurious pressure. This will prevent urethritis, prostatitis, prostatic abscess and costitis. The saddle should allow pedaling without needless friction. The rider should have a firm yet elastic seat."

In the Christy Saddle Messrs. Spalding & Bro's. have secured a bicycle saddle that fully meets all the demands and satisfies at once all medical and scientific requirements without losing any possible advantage in other directions.

It is molded in strict anatomical conformity to the parts of the body with which it comes in contact; comfortable yet firm cushions are employed and so adjusted as to properly receive the bony prominences of the pelvis. These cushions, which are removable, rest upon a perforated base and, with a free circulation of air through the horn of the saddle, insure a cool seat, a most important consideration from the standpoint of comfort as well as hygiene. The frame is made of metal and maintains its correct position under all circumstances. The saddle is easily adjusted at the proper angle. Numerous testimonials from eminent surgeons declare this saddle to meet all requirements, while eminent riders give it the highest praise.

MEDICAL REVIEW,

A WEEKLY JOURNAL OF MEDICINE AND SURGERY.

VOL. XXXIII.

ST. LOUIS, MAY 16, 1896.

NO. 20.

ORIGINAL ARTICLES

Tumors of the Lachrymal Gland.

BY ADOLF ALT, M.D., ST. LOUIS, MO.

Read at ninth annual meeting of the National Association of Railway Surgeons, held in St. Louis, April 29, 30, and May 1, 1866.

Tumors originating in the lachrymal gland are of comparatively rare occurrence, so that the experience in this direction which may fall to the lot of any one man is not likely to be very great. In consequence the text-books, even those considered to be of the very best, give but little space to this subject. E. Treacher Collins, in his extensive report as curator of the Royal London Ophthalmic Hospital Museum, reports only one case of primary sarcoma of the lachrymal gland and adds, that adenomatous and carcinomatous tumors may also arise in this gland.

Schirmer, in *Graefe and Saemisch* (Vol. VII, 1, page 7, etc.), gives a more detailed description of a résumé of the literature on the subject up to his time of writing and he agrees in the main with O. Becker who maintained that the tumors of the lachrymal gland, which before him, had been described under various names, as simple hypertrophy, adenoma, adenoid, colloid tumor, sarcoma, myoma, and encephaloid cancer, really constituted only one form of tumor which he termed adenoid.

However, since his publication a considerable number of tumors of the lachrymal gland have been reported and their histology has been thoroughly studied and O. Becker's sweeping criticism is evidently not substantiated by facts. Almost every year has brought forth the report of one or more such cases in literature and while it is true that the majority of the tumors had a partially epithelial character, as is natural from their origin, there are quite a large number of tumors on record, in which the epithelial character was altogether wanting or played a very inferior role. However, we shall return to this point later on.

The symptoms of the affection usually begin with a slight swelling in the outer upper part of the orbit by

which the eye is pressed out of its normal position. As the swelling increases, which is usually a very slow process, the exophthalmus increases also and the eye is pressed down-, in- and forward, while up- and outward movements become restricted. This is usually accompanied by diplopia. Gradually the outer part of the upper eyelid is pressed more forward, its folds disappear and it appears elongated. At this time, if not before, it is possible to feel the tumor at the location mentioned and, perhaps, to see parts of it protruding under the conjunctiva when turning the upper eyelid. It may appear solid or lobulated to the palpating finger and it may feel hard or semi soft and elastic, according to its consistency; yet it is probably impossible to make a diagnosis as to its nature from these symptoms.

As the growth goes on the lid can neither be lifted nor does it fully cover the protruding eyeball. The veins of the lid and of the temple appear engorged. If the tumor grows more rapidly backwards into the orbit, it may form a shell, so to speak, behind the eyeball and thus produce an exophthalmus in an almost straightforward direction as we are accustomed to see due to tumors of the optic nerve.

If the tumor is allowed to grow further, the exposed cornea sloughs or dries out.

During this gradual development of the tumor the patients sometimes suffer from considerable pain, others complain only of the diplopia, and this latter symptom may disappear, when the eyeball is so far pressed down, that the lower lid covers the pupillary area.

The only etiological factor which in the reported cases is sometimes stated is a previous injury of some kind or other to the temple on the affected side.

Aside from the danger to the eyeball, by destruction of the cornea and of blindness by atrophy of the optic nerve due to the compression of the blood-vessels, the tumors of the lachrymal gland by their malignity endanger the patient's life and should, therefore, be removed as early as their presence is recognized.

In the earlier stages of their growth this may be done with the preservation of the eyeball and of vision, although ptosis may result and has in a number of instances resulted from this operation.

The removal is easiest accomplished by an incision through the upper eyelid along the orbital margin. As these tumors are usually very friable and soft, some even almost gelatinous, the removal must be done very carefully and with the avoidance of sharp-cutting in-

struments. It is often impossible, with the greatest care even, to remove the tumor as a whole. Another method consists in removing the tumor from the conjunctiva after splitting the outer canthus.

Later on, when the tumor has filled the posterior parts of the orbit and the eye is lost, or when it has spread so far as to make a clean removal by the methods just mentioned impossible, it may become necessary to eviscerate the whole orbit. In such cases, however, the tumor has usually entered the cranial cavity through the orbital fissures and the effect of the operation can, at best, be only a palliative one.

The healing is usually very smooth and uneventful. When the eyeball has been saved, it returns to its normal position and the patient may even regain binocular vision.

As stated before, the histological character of these tumors varies greatly. It has been my good fortune to personally examine seven tumors of the lachrymal gland, three of which I have myself removed and reported in *Knapp's Archives* and the *American Journal of Ophthalmology*. I have of late again studied my specimens very carefully and with the following results: five of the tumors may be considered as being to some extent of an epithelial character, two show no epithelial structure whatever.

Of the five tumors showing epithelial structures there is only one in which this character is throughout the tumor the prevailing one. In fact, so closely does this tumor follow the normal appearance of the lachrymal gland that I described and published it as an adenoma. The connective tissue between the glandular structures is also increased, but not to any very large extent.

The four other tumors which also show an epithelial character and which in their structure seem to be very much like those described by O. Becker as adenoids, are but little different from each other. The more I have studied them the more have I become convinced, that the epithelial tissue found in them must be looked upon as the remnants of the original glandular tissue which are in places somewhat hypertrophied, but that there is hardly any newformation of glandular tissue and that in consequence the real character of these tumors is not that of an epithelioma or a glandular carcinoma. The bulk of the tumors is made up of myxomatous and cartilaginous tissue, by which the glandular structures are widely pressed apart and probably have atrophied and totally disappeared in places. The epithelial tissue still found shows, as a rule, a glandular, tubular arrangement of the cells around an open lumen. There are here and there cystic enlargements, which show that some secretion has been going on, while the growth progressed. In some places small colloid bodies are found, probably metamorphosed cells.

The sixth tumor of the lachrymal gland which I examined was a spindle cell sarcoma of the purest type. It consists simply of smaller and larger spindle cells closely packed with no visible intercellular substance and some round cells in the younger portions. I may

state, that this tumor had grown back into the orbit and produced a straight forward exophthalmus with absolute abolishment of the motility of the eyeball. The patient died later on of multiple spindle-cell sarcoma in all important organs.

The last tumor of the lachrymal gland, I removed, was so soft, that when on incision the thin capsule was opened the contents oozed out as a granular sticky mass. As the forceps could nowhere get a hold of it, I had to squeeze it out before I could thoroughly remove the capsule. It proved to be a chondro-sarcoma. There is not a trace of glandular tissue to be found in this tumor. The only other tissue it contains is here and there a microscopical spicula of bone. There are also some colloid bodies in this tumor.

The number of tumors of the lachrymal gland here considered is, of course, not a large one in itself, although not so small when compared with the whole number of cases reported in literature. Yet, with the exception of the case, which I consider to be an adenoma, the remaining ones are chiefly characterized by connective tissue formations, not by an epithelial structure. I do not think, therefore, that I am wrong when concluding, that the tumors of the lachrymal gland very frequently take their origin in the interstitial connective tissue and only in the rarer instances are truly epithelial in character.

Lymphoma, lymphadenoma, tubercular tumors and chloroma of the lachrymal gland, as have been described in a number of instances, I have not had an opportunity to see.

Gonorrheal Transmutation.

BY JESSE EDWARD THOMPSON, M.D., SAN BUENA VENTURA, CHIHUAHUA, MEXICO.

December 1, 1895, I began attending a Mexican, 22 years of age, who had been under the care of a Mexican physician for two weeks, or longer, who pronounced the young man to be dying of pneumonia—pulmonia, as it is called in Spanish.

Examination revealed pericarditis and dry pleurisy in the right thorax. Pulse, 180, small and irregular; temperature, 108.5°F.; tongue, dry, fissured and bleeding, and teeth covered with sordes; skin, hot and dry. The patient had a dry, hacking and very painful cough, without expectoration; complained of great oppression about the heart. The nurse informed me that the man had slept but little for eight days, and eaten nothing but a little milk; that the bowels were very loose; there was but little tympanitis, and no tenderness complained of.

The history of the case was about as follows: During April, 1895, he contracted gonorrhea; had orchitis, and bubo in right groin and testicle. A gleet discharge kept up until November, when he again contracted gonorrhea. About the middle of the month he was forced to take to his bed, complaining of fever, stiffness and

pain in right thigh, knee, ankle, foot and toes, with but little swelling. The left arm, elbow, wrist, hand and fingers were slightly swollen and painful. He had occasional pain in the heart and below the right arm-pit. When I first saw him there was no evidence of rheumatism in the muscles or extremities.

After the pleurisy and pericarditis had yielded to treatment, and the fever had subsided, suddenly the right thigh, knee, calf, ankle, foot and toes became swollen and painful; also the right elbow, wrist, hand and fingers, accompanied with fever—100° in the morning and 102° in the evening.

After two weeks' treatment the rheumatism disappeared as suddenly as it had showed itself. Two days thereafter I was called at night to find a profuse and alarming hemoptysis, the blood seemingly coming from the mucous membrane of the right lung. Checking the hemorrhage by the hypodermic use of ergotine, twelve hours thereafter the heart and pleuritic symptoms again appeared. The patient was reduced in strength, and the heart so weak and irregular that I gave an unfavorable prognosis.

By the energetic use of stimulants, cod liver oil, milk and beef extract, strychnia, quinine, iodide of potassium and iodide of iron his strength was gradually restored. The heart, pleuritic lung and rheumatic troubles subsided, and at the end of six weeks the man was able to sit up in bed, and at the end of six weeks more was on the streets.

The only complication I am unable to account for, if indeed I can account for the pleurisy and pericarditis upon the gonorrheal transmutation theory, is the hemoptysis. I regard all these affections as secondary. The young man was uniformly healthy, strong and active until the first attack of gonorrhea. Whether the gonococcus toxins played any part in producing the complications rests alone upon theory.

At this time the man is apparently as rugged as before the attack.

The Relative Value of Phenylacetamide and Ammonol.

BY W. F. WAUGH, M.D., CHICAGO.

Professor of Practice, Illinois Medical College.

It is characteristic of phenylacetamide that its greatest triumphs are won by combinations containing this drug, rather than by it when given alone. There are many of these combinations that have won popularity by their undeniable efficacy, and while phenylacetamide is the principal constituent, they all excel that drug when it is given alone. The "antinervine" mixture of phenylacetamide, sodium salicylate, and ammonium bromide, in varying proportions, is one of the best of these for many diverse forms of pain. Within the last year, however, it has been largely superseded in my practice by ammonol.

Therapeutically, this may be said to combine the properties of phenylacetamide and ammonia, and the latter appears to hasten the action of the coal tar product, so that the effect is manifested much more speedily than when given alone. This renders ammonol especially valuable in the severe forms of nervous headache, where the intense pain demands quick relief. Not the least advantage here is that it does away with the need of morphine hypodermics, almost the only means of affording speedy relief previously. As neuralgic attacks are invariably characterized by depression of the vital forces, it will be seen that the use of ammonia enables us to avail ourselves of the powerful aid of phenylacetamide in many cases that without it could not be treated by any coal-tar derivative. One case illustrates this point:

A lady in New Mexico was subject to excruciating attacks of neuralgic headaches; blinding headaches, she called them. Phenylacetamide at first relieved her, but soon failed; and when the dose was increased until she became blue, great depression and fainting ensued, and yet the pain was not relieved. She was given ammonol, and this gave complete relief, not only at first, but now, over a year from the day she first took it, she still obtains as much relief from the original dose of 5 grains. This case has created a steady market for ammonol in the New Mexican town in which she resides.

The same result has followed in several cases of dysmenorrhea, both spasmodic and congestive. In the former ammonol is usefully combined with helonias and ammonium valerianate, in the latter it needs no assistance. Here, also, there is no need of increasing the original dose; in fact, as the habit of looking for relief from ammonol becomes fixed in the mind, smaller doses will suffice to give the needed relief.

There is a third group of painful affections in which ammonol not only gives certain relief, but does so more certainly than any other form of phenylacetamide compound. This is the headaches dependent on or accompanied by acid or irritable stomach. It is now recognized that many headaches are uricemic; that sickness is not so frequently an evidence of depression as Austie claimed, but rather is caused by the presence of toxic acids, whose absorption into the circulation gives rise to the headache. We have, then, ammonol, the remedy that meets exactly all the indications present—an antacid to neutralize the uric or acetic acid present, an antiseptic to stop fermentation of microbic toxin generation, and an analgesic to relieve the pain. In rheumatism, and in some forms of intestinal fermentation, it seems probable that the addition of salicylic acid, probably as ammonium salicylate, would be desirable, as increasing and prolonging the antiseptic action of the phenylacetamide.

Altogether, we have in ammonol a happy combination founded on just therapeutic principles; one from which we obtain effects superior to those of the components given separately; and as such, ammonol deserves a place in every physician's *vade mecum*.

MEDICAL REVIEW.

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PUBLISHED UNDER THE AUSPICES OF THE
MEDICAL REVIEW ASSOCIATION

BY O. H. DREYER.

YEARLY SUBSCRIPTION, \$3.50. SINGLE COPIES, 10 Cents.

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Secretaries of medical societies will confer a favor by keeping us informed of the dates of the meetings of their respective societies, and of officers elected.

Members of the profession who send us information of matters of general interest to our readers will be considered as doing them and us a favor, and we shall take pleasure in inserting the substance of such communications.

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The Cause of Death of Dr. Langerhans' Child.

Medical literature contains a number of examples where in practically healthy individuals death followed shortly after an hypodermic injection and where the injected ingredient was, with reference to dangerous qualities, of an indifferent nature.

The cases of deaths reported as following the prophylactic injection of diphtheria antitoxin are extremely few and in no case has the cause of death been satisfactorily proven to be due to that agent. The fact that in these cases immediately or some time after the injection of serum death ensued does not prove that the lethal exit was the consequence of the injection. On the other hand ten thousand of prophylactic injections of Behring's serum have been administered to children of the tenderest age without causing the slightest harm.

Among the exceedingly few fatal issues succeeding an injection with diphtheria antitoxin the sudden death of a child of Prof. Langerhans, of Berlin, to which we have referred in a former issue, has caused, for a time,

the greatest consternation among all classes of people. In the few other well-authenticated cases of prophylactic injections death did not follow immediately, or almost immediately, after the injection. Dr. Langerhans, a well-known pathologist, in stating in the daily papers, in connection with the death notice, that his child died in consequence of an injection with Behring's serum, has done a great injustice to a remedy which may truly be called the greatest therapeutic acquisition of modern times. The post-mortem investigation has revealed nothing with reference to the cause of death. The very fact that the child died almost immediately after the injection would indicate that the serum can not be made responsible for the occurrence; for besides prussic acid there are very few poisons known to physiologists which cause immediate death upon being injected under the skin. The toxic products which might possibly form in a carelessly prepared serum or after a certain lapse of time since its manufacture would not cause, as good authorities claim, the sudden death like the one under discussion. After an examination by the German Government it has been found that the lot of serum with a portion of which Dr. Langerhans' child was injected has been found harmless with reference to the serum itself as well as to the carbolic acid added for the purpose of preservation. Moreover, many other children of a more tender age have been injected with the identical serum without sustaining the slightest injury. The unbiased and impartial observer must, therefore, come to the conclusion that the sudden death following the injection of serum must be looked for among other possible causes.

The first reports of the accident stated that an acute nephritis had been found to be present. This rumor was, no doubt, without foundation, for later reports from reliable sources claim that absolutely no pathological condition was detected by the post-mortem investigation. Considering the rapidity with which death ensued an acute nephritis could, of course, not be attributed to the serum. The only plausible explanation of the sudden death must be looked for in four possibilities. Cases of sudden death following a hypodermic injection of a small dose of a drug have been observed at various times and explained by the formation of a blood clot in a vein which is carried into the pulmonary circulation, or by the entrance of air with a consequent air embolism. In both cases the ensuing pathological signs may escape detection. There is a bare possibility that the direct entrance of the diphtheria antitoxin into the circulation by an unlucky or careless injection of the serum into a vein might have caused the death; although only very strong poisons, such as the most virulent snake poisons, kill, when directly injected into the circulation, with a rapidity like the one observed in the case of Dr. Langerhans' child. This hypothesis is very improbable, however, but the possibility must be taken into consideration as long as absolute proofs to the contrary have not been rendered, and, to our knowledge no experiments have been conducted for the

purpose of proving or disproving this possibility.

A fourth possibility is one which has been suggested by Eulenburg, of Berlin, as the probable cause of death of Dr. Langerhans' child. Eulenburg makes the extreme nervous excitement and fear of the patient, which is said to have been present in this case, responsible for the sudden death. There is much to be said in favor of the latter explanation. Cases of sudden death in cases of chloroform narcosis, where only a few whiffs of the anesthetic were administered, can not be explained by any other cause than an extreme nervous excitement—shock. Why should the same not be true of an hypodermic injection where a comparatively large quantity of fluid is injected which is more or less accompanied by pain. In such a case a paralysis of the heart, superinduced by immoderate fear, would explain similar cases sufficiently satisfactorily as long as no other more plausible explanation can be advanced. At any rate, to make a remedy, which has been used in many thousands of other cases in much younger children without any pronounced deleterious effects—to make such a remedy responsible for death occurring with a lightning rapidity upon its hypodermic injection—in Langerhans' manner—must be attributed to a disturbed function of reasoning. That the extreme grief due to the unexpected loss of a previously healthy child, intensified by several previous losses in the same family, may temporarily overcome the logical reasoning power of an individual is not a surprising phenomenon, and it is upon this basis alone that Dr. Langerhans' action in the matter is at all excusable. This excuse, however, does not apply to physicians whose *psyche* was not thus disturbed and the behavior of some of these, who have exerted their utmost to decry the merits of diphtheria antitoxin is, of course, extremely reprehensible. Now and then a death is reported from the administration of chloroform, or ether, or other anesthetics, yet what physician would dare to condemn the use of these blessings to surgical science, without incurring the risk of disapproval and distrust of their most advanced and respected colleagues.

Under such circumstances it is a most ludicrous, but significant, fact that a young disciple of the healing art of one of the great centers of medical learning, Berlin, announces in a much-read Berlin daily paper that "a remedy, whose application is accompanied by so many dangers" would hardly be adequate to be henceforth employed. By thus introducing himself to the reading public the young doctor could not have selected a more fitting opportunity to betray his lack of knowledge and calm judgment.

The fact that Dr. Langerhans, in publishing the death notice of his child, speaks of the death as "due to an injection of Behring's serum" and in the funeral notice of "the funeral of our son who was poisoned by Behring's serum" has naturally created a temporary profound excitement among the public in and outside of Berlin, an excitement which was heightened by the efforts of all the open and secret antagonists of Behring's serum and the

envious rivals of Koch's school. Some of the newspapers, as may be expected, did their part in keeping up the excitement until gradually the situation has given place to a calmer judgment, by which the serum has been reinstated into its well-merited former place of honor which has been most appropriately expressed by the President of the recent German Congress of Internal Medicine by calling the discovery of Behring's serum the most important acquisition of modern therapeutic efforts.

American Medical Association.

The annual meeting of the American Medical Association has been a most successful one.

Dr. Montgomery, Chairman of the Board of Trustees, presented a report of that Board showing that \$15,147.02 had been received during the year and that there was a balance in the treasury of \$1,009.04.

A report was made by Dr. Royford for the Committee on the Memorial to the memory of Dr. Rush. The report showed that \$3,787.64 was in the hands of the Committee, but that about \$4,000 more was needed to complete the monument.

The Committee on Nominations recommended Philadelphia as the next place of meeting, the time to be the first Tuesday in June. The recommendation was adopted.

Among the many valuable papers read at the meeting was one by Dr. Senn on "Modern Surgery" and one by the Surgeon-General of the U. S. Army, Dr. Sternberg, on the subject of "Operations on Live Animals."

The Jenner centennial was opened, the same being a celebration of the one hundredth anniversary of the discovery of vaccine virus by Dr. Jenner.

Dr. Atkinson, of Philadelphia, was re-elected Secretary of the Association, an act which will be welcomed by all the well wishers of the Association. For Dr. Atkinson's choice is one which could not be improved upon and the Association is to be congratulated upon its good judgment in re-electing its universally esteemed and able Secretary.

The election of the other officers also seems to have met with a general approval of the united profession. The following are the names of the officers for the ensuing year:

President—Dr. Nicholas Senn, of Illinois.

First Vice-President—Dr. George M. Sternberg, of the United States Army.

Second Vice-President—Dr. Edmund Souhon, of Louisiana.

Third Vice-President—Dr. K. D. Thomas, of Pennsylvania.

Fourth Vice-President—Dr. W. T. Westmoreland, of Georgia.

Treasurer—H. P. Newman.

Assistant Secretary—Dr. T. F. Sneiderman, of Pennsylvania.

Librarian—Dr. George W. Webster, of Illinois.

Chairman of Committee on Arrangements—Dr. H. A. Hare, of Pennsylvania.

Trustees—Dr. G. C. Savage, of Tennessee; Dr. E. E. Montgomery, Dr. J. M. Matthews, of Kentucky, and Dr. C. A. Reed, of Ohio.

Judicial Council—Drs. George W. Stoner, United States Marine Hospital; J. McGaslon, of Georgia; I. Brumby, of New Jersey; C. H. Scott, of South Carolina.

Southeast Missouri Medical Association.

This Association convened May 5-7, at Kennett, Mo., about thirty members being present with Dr. Howle, of Oran, in the chair. Eight new members were received in the Society. A number of interesting papers were read and discussed. After the disposal of the Society's business affairs the election of officers took place with the following result:

President—Dr. F. Kinsolving, Hornersville.

Vice-President—Dr. W. N. Howard, Cape Girardeau.

Corresponding Secretary—Dr. A. D. Blomeyer, Cape Girardeau.

Recording Secretary—Dr. H. S. McElmury, Charleston.

Treasurer—Dr. R. T. Henderson, Jackson.

Interesting papers were read by Dr. Bondurant, Dr. Rosenthal and Dr. Markel.

On the evening of May 7 the members were entertained by the citizens of Kennett.

Nebraska State Medical Society.

The twentieth annual meeting of the Nebraska State Medical Society will be held in the Federal Building at Lincoln, Neb., May 19-21, 1896. The meeting promises to be an interesting one and many members are expected to be present.

A great many papers have been announced. The following are the officers of the Society:

President—J. E. Summers, Jr., Omaha.

First Vice President—R. C. McDonald, Fremont.

Second Vice-President—A. B. Anderson, Pawnee City.

Corresponding Secretary—W. R. Lavender, Omaha.

Recording Secretary—George Wilkinson, Omaha.

Treasurer—W. M. Knapp, Lincoln.

Committee of Arrangements—W. M. Everett, H. B. Lowry, H. J. Winnett, Lincoln.

Southern Illinois Medical Association.

The twenty second annual meeting of the Southern Illinois Medical Association was held in East St. Louis, Ill., May 14 and 15, 1896, at Music Hall. The program consisted of a large number of interesting papers, among the authors of which we notice a number of prominent and familiar names: H. H. Mudd, H. C. McIntyre, A. H. Ohmann-Dumesnil, S. Dodds and many others.

Jenner Centennial.

A Jenner centennial will be celebrated at the vaccine farms of Dr. H. W. Alexander & Co., Marietta, Pa. The vaccine plants in operation will be shown to the Medical Society of Pennsylvania and many other invited guests.

BOOK REVIEWS

Books reviewed in this column may be obtained, post-paid, by addressing the publisher of this journal, and remitting the quoted price.

Twentieth Century Practice. An International Encyclopedia of Modern Medical Sciences. By Leading Authorities of Europe and America. Edited by THOMAS L. STEDMAN, M.D., New York City. In Twenty Volumes. Volume V. "Diseases of the Skin." New York: William Wood & Company. 1896. Price, Cloth \$5.00, Leather \$6.00.

This work is a most excellent treatise on diseases of the skin, embodying all the new advances in this branch of medical science. Volume V of the series of Twentieth Century Practice is fully the equal of those having already appeared. The list of contributors is made up of authorities in dermatology at home and abroad. The subjects are treated in a concise and thoroughly scientific manner, so as to make the work useful to specialists as well as practitioners and students. The illustrations are of a practical character and aid in the elucidation of the various subjects. The work contains much valuable information which is not to be found in treatises of a less recent origin embodying a careful selection of what has been added to the specialty in recent years. In all its details the work is one of the highest quality as a book of reference as well as a textbook. The arrangement of the text is most commendable, the various subjects being treated under the following divisions:

Anatomy of the Skin and Its Appendages, by Charles W. Allen, New York.

Parasitic Diseases, by L. Duncan Bulkley, New York.
Erythematous Affections, by Henry H. Whitehouse, New York.

Eczema and Derivatives, by James Nevius Hyde, Chicago.

Squamous Affections, by H. Radcliffe Crocker, London.

Papular Affections, by L. Brocq, Paris.

Bullous Affections, by Henry H. Whitehouse, New York.

Pustular Affections, by Henry H. Whitehouse, New York.

Plegmonous and Ulcerative Affections, by Radcliffe Crocker, London.

Diseases of the Sebaceous Glands, by Arthur Van Harlingen, Philadelphia.

Diseases of the Sweat Glands, by Arthur Van Harlingen, Philadelphia.

Diseases of the Hair and Nails, by Douglas W. Montgomery, San Francisco.

Benign Neoplasms, by John T. Bowen, Boston.

Xeroderma Pigmentosum, by Moriz Kaposi, Vienna.

Dermatoneuroses, by H. Leloir, Lille.

TRANSLATIONS.

BY EDGAR THOMPSON, A.M., M.D.

Physiology of the Cervix Uteri.—M. Keiffer has conducted physiological experiments and anatomical investigations on the cervix of the uterus to determine whether it is a true sphincter, comparable, in function, to the other sphincters of the body as the anus, pylorus, vesicle, neck, and iris (*La Revue Med*). The author has formulated the following conclusions:

1. The neck of the uterus is a true sphincter, from an anatomical standpoint, having circular and radiating fibers constituting constrictors and dilators.

2. The tone of the neck is maintained by a reflex center in the lumbar vertebra.

3. The center stimulating tonic contractions of the neck lies, in the dog, at the level of the fifth lumbar vertebra.

4. The cervix can be made to contract and dilate by an irritation of the spinal cord or certain peripheral sensory nerves (crural) respectively.

5. The vagus nerve is not a motor nerve of the cervix but has a reflex motor influence.

6. Acute anemia provokes complete relaxation of the neck; transfusion of physiological serum will restore the tonic contraction.

7. Asphyxia exercises a violent constrictive action on the uterus and cervix.

8. Certain influences can exert opposite influences on the neck and body of the uterus, the neck being constricted while the body is relaxed or *vice versa*.

Diagnostic and Therapeutic Value of Aspiration of the Spinal Column.—Dr. Lenhartz has made an analytic study of 150 cases of lumbar puncture and the following are the conclusions as to the value of the process (*La Revue Med.*):

1. *Tubercular meningitis.*—Puncture had been made in 14 cases of this affection. The average amount of liquid drawn off was 30 c.cm. with a specific gravity of 1005–1008 and a proportion of albumin of 1 to 3 per 1000. The examination of the serum for the characteristic bacilli was negative except in one case. All the 14 cases died from a combined action of acute hydrocephalus and general miliary infection. Puncture and

withdrawal exerted an indifferent influence on the disease.

2. *Cerebral tumors.*—The puncture had been made 8 times in 4 patients. The quantity of liquid withdrawn varied from 20 to 80 c.cm. In one case the puncture caused the violent headache to cease. In the other cases it did not develop any noteworthy influence.

3. *Cerebral hemorrhage with chronic hemiplegia.*—Puncture had been practiced 14 times in 11 patients. The specific gravity of the liquid was 1006 and only a trace of albumen was found. Temporary relief upon the headaches and pain in the limbs was all that could be said of the puncturing.

4. *Chronic serous meningitis.*—Three cases were treated 15 times. The liquid contained a trace of albumen. Two cases recovered and one was ameliorated.

5. *Acute cerebro-spinal meningitis.*—In cases in which a microscopical examination revealed diplococci in the liquid the termination was fatal. In others the results were more favorable.

6. *Secondary cerebro-spinal infections* (following pneumonia, typhoid fever, measles, etc.).—Nineteen cases were punctured with 9 deaths. There was nothing characteristic in the liquid.

The author considers spinal puncture devoid of special danger but of uncertain value.

Post-Partum Hemorrhage.—M. Tarnier observes that the first and essential point to consider, when confronted with a case of post partum hemorrhage, is to locate, if possible, the site from where the blood is escaping (*La Revue Med.*, April 11, 1895). It is of the utmost importance to determine if the hemorrhage comes from the body of the uterus, or from a laceration of the cervix uteri, vagina or vulva. In each variety of hemorrhage the prognosis and treatment is very different. The condition of the uterus leads to a provisional diagnosis. If it is hard, small and retracted the blood probably does not come from it. If the hemorrhage is found to be from the vagina or external parts thorough tamponing is, in the opinion of the writer, the easiest and surest treatment.

In considering the true post-partum hemorrhage where the blood comes from a large uncontracted uterus with patulous open sinuses the author divides the treatment into prophylactic, curative and consecutive.

In some cases the hemorrhage can be anticipated and expected through certain prodromal symptoms. Patients with albuminuria are very liable to hemorrhage. If a hemorrhage is imminent a large dose of ergot should be given towards the close of labor and afterwards a hot-water injection will cause a firm and permanent contraction of the uterus.

The direct curative indication is to produce a contraction of the uterus. This contraction is an inherent function of the uterine fibers but if there is any thing in the uterine cavity the contractions will be irregular clonic. The formation of intra-uterine clots is a considerable factor to the continuation of a hemorrhage, as they will

not permit a firm uniform contraction but cause irregular and spasmodic pains.

In view of this theory it has been the author's practice to remove all clots from the uterus whenever there is a tendency to hemorrhage. The clots must be kept from the cavity by repeated removals. If, while the clots are being removed, inertia of the uterus becomes apparent, the use of hypodermic preparations of ergot will give excellent results.

The author does not favor intra-uterine tamponading. He applies local pressure but prevents, as do the clots, a firm and permanent contraction of the uterus. He has seen the blood forced through the tubes into the peritoneal cavity by the introduction of a tight gauze plug in the cervix.

Treatment connective to a hemorrhage consists in the liberal use of hot alcoholic drinks; compression of the extremities to increase the volume of blood in the heart; extreme heat; injection of artificial serum.

MEDICAL SOCIETIES

PROCEEDINGS OF THE ST. LOUIS MEDICAL SOCIETY.

W. H. FUCHS, M.D., EDITOR.

Stated meeting, Saturday evening, March 28, 1896; the President, W. G. MOORE, M.D., in the Chair.

* *

DR. J. C. MULHALL presented a patient to demonstrate

The Action of Creosote in a Case of Pulmonary Tuberculosis in the Third Stage.

He desired especially to call attention to three propositions: first, that a patient in the third stage of consumption is not always in a hopeless state; second, that creosote is so far perhaps the most extraordinary chemical we have in the treatment of tuberculosis; and third, how long and in what large doses a patient may take creosote.

When the patient first presented himself to speaker, about one year ago, he gave a history of cough, which had lasted about a year, accompanied by the usual symptoms of hectic fever, chills, night sweats, loss of weight and expectoration. His weight had declined from 165—his usual average—to 140 pounds. The very first percussion note at the right apex revealed the characteristic "cracked pot" resonance, and further physical examination was deemed useless. A diagnosis of pulmonary consumption in the third stage was made, and the case was considered as probably hopeless. However, Dr. Mulhall made a microscopical examination of the sputum and it crowded with tubercle bacilli.

The patient was not able to leave his home to seek climatic treatment, so that entire reliance had to be placed on a rigid dietary and proper therapeutics. His home is in Salem in the Ozark Mountains, which is about 1200 feet above sea level. He depended almost exclusively on three articles of food—and speaker relies upon these almost exclusively in the treatment of consumption—beef, milk and raw eggs. He took no farinaceous food and no stimulants whatever, not even tea or coffee. He was given creosote at once, beginning with three drop doses, and taking it according to the method usually employed by speaker, dissolving the creosote in a tablespoonful of whiskey and then mixing it in milk, either hot or cold. He continued to take creosote from that day, increasing the dose 1 drop daily, until he was taking ninety drops a day. At that time, or about three or four months after treatment began, he had a profuse hemorrhage, and he was instructed to discontinue the creosote temporarily. The hemorrhage lasted off and on for about one month, during which time no creosote was taken, but this was the only period in the course of the case during which the administration was suspended. The largest dose was ninety drops a day, but he has taken from sixty to seventy-five drops per day regularly. According to the patient's own statements he has never suffered the slightest inconvenience from the creosote, his digestion and appetite have been improved, and has no acid stomach or fermentation of food whatever; temperature has not been abnormal during the past six months; he has regained his normal weight of 165 pounds—it ranges from 162 to 165; his strength has returned; he has only very slight dyspnea upon going up stairs; has only very slight cough in the morning, and the expectoration is so slight that it is difficult to get enough for a microscopical examination. Physical examination shows that signs of a cavity in the right side still exist, but the "cracked pot" resonance has ceased and the resistance to the finger during percussion is very considerable, greater than on the left side, showing that the walls of the cavity are very likely quite thick and firm, and that it is in process of cicatrization. High pitch breathing is also still present at the right apex. In all probability a cure has taken place, and while the cavity may not be completely healed, it is in process of cicatrization.

This is not the first patient whom speaker had cured with creosote, but this is the first opportunity he has had of presenting a cured patient before a body of medical men. The patient remained over purposely for presentation to-night, and speaker's object in presenting him was to show that there are more wonderful things than serum therapy. Here is a patient who was in the third stage of consumption cured by creosote, and that is more than anybody has been able to do with the serum therapy so far.

DR. H. C. FAIRBROTHER was very glad to see the case presented, as the result is a most excellent one, and, doubtless, would have created an uproar if the patient had been treated with serum.

The administration of creosote has been practiced many years, but the irritating qualities of the drug have been a great obstacle to its general employment. He usually prescribes it in a syrup emulsion, a drop to the ounce, and that is about as much as he has been able to give at a dose. The dose administered in this case is rather heroic, but it seems to have done its work well, as the recovery is just about complete and is a very remarkable one.

DR. LUDWIG BREMER asked **Dr. Mulhall**, if such large doses of creosote have been known to be taken with tolerance by patients with diseases other than tuberculosis?

DR. MULHALL —Not to my knowledge.

BR. BREMER said it would seem that tuberculous patients have a rather remarkable idiosyncrasy of tolerance to this drug, and it amounts almost to a peculiarity of tuberculosis. When it is given for fermentative dyspepsia, for instance, no such large doses are borne. Speaker had tried it time and again and has never succeeded in administering more than two or three drops at a dose without producing gastric disturbance. This peculiarity in tuberculosis is a rather remarkable phenomena and can be explained in no other way than that there are certain defensive or protective processes set up in the body, and it may be that in this particular instance a tolerance is established for a chemical which has a distinctive effect upon the disease-producing microbe.

Speaker was glad that this case had been presented, as it is an ocular demonstration of the beneficial results of the chemical treatment of consumption. The moral trend, of hunting up something else to replace the chemical treatment of infectious disease, is a legitimate one, but it is questionable whether science has progressed far enough to carry out the promises given us in diphtheria, for instance, and applying them to tuberculosis, in which disease enter many more factors of a far reaching importance.

Speaker had seen many remarkable cures of consumption by the chemical treatment; not in his own practice, but as an examiner of sputum. Thus, there have been three patients who, apparently at least, recovered by glycole treatment. A few days since he had the opportunity of examining the sputum of a patient who had just returned from Germany, where he had been treated with cyamonic acid, a remedy which is just at present much in vogue on the continent. He had had no opportunity of making previous personal examinations, but the patient had in his possession a number of reports of sputum and urine examinations, coming from responsible people, that the sputum was teeming with tubercle bacilli. Examinations were made of expectorations on two successive mornings and not a trace of a tubercle bacillus was found; nor was there much evidence of trouble in the lungs, except, perhaps, of a slight consolidation of the left apex.

But we must bear in mind that tuberculosis is a curable disease. Only seven or eight months ago the case of

Dr. Blickhahn presented a striking example of a cavity in a man who, during his lifetime, was not suspected of being tuberculous; least of all, did he suspect it himself. He died, probably of a uremic and sclerotic combination, and there was found in his lung a cavity the size of a walnut. The cavity had a very dense, firm and powerful wall of cicatricial tissue, almost of the hardness of cartilage, but not one tubercle bacillus was found in a great many sections very carefully made from the neighboring tissue. A great many defunct giant cells were found, however, showing there had been an active process going on. This young man had evidently had an attack of tuberculosis and had gotten well of it.

But this is the old story. The pathologist who sees a great many post-mortems and examines many lungs every once in a while meets with a case in which not a trace of tuberculosis seems to have been present during life, and yet he finds a cavity or a characteristic tuberculous cicatrix. On the other hand appearances are often very deceptive. Cases will be diagnosed as tuberculosis which are in reality benign chronic inflammatory processes, and unless great care is taken they will figure as cures of tuberculosis. Of course, a microscopic diagnosis will settle the point definitely, but it should be made only by experienced persons. In this regard speaker had lately had some very remarkable experiences; he had seen specimens purporting to contain tubercle bacilli, in which the supposed bacilli were bodies which had been stained in a peculiar manner and very much resembled the bacillus, but actually were not.

DR. ROBERT FUNKHOUSER had observed the peculiar tolerance to creosote in his tuberculous subjects, although he had never given more than thirty drops. He always examines the urine for albumin during the administration.

DR. W. G. MOORE related the case of a patient who presented the unmistakable signs of phthisis pulmonalis, the diagnosis being confirmed later by a microscopical examination. In that case the administration of creosote was pushed until he took sixty drops three times a day. The only precaution taken in the administration was to largely dilute it. He took the drug in a large goblet full of water. This dose was continued about thirty days, and the fever subsided, the patient coughed less, gained some flesh, and although he had considerable fermentative decomposition at first this symptom grew steadily less as the dose was increased. With this improved condition came new hope, he went to New Mexico and has continued to improve. Although a number of examinations were made no albumen was ever discovered.

DR. J. C. MULHALL said it is quite possible that his patient might have recovered without creosote. At any rate he is here, and if he had been in the city the Doctor would have presented him at the general discussion last Saturday night, in order to show the result obtained, which is a brilliant one, such as we seldom see, and

better than any one in which the serum has been used, so far as he knows.

Speaker believed that the creosote contributed to the good result. Professor Julius Sommerbrodt, who has treated some thousand cases with creosote, tells us that small doses are of no value whatever. Where he has obtained brilliant results they have been from large doses; and his teaching is to push creosote as far as possible, regardless of the dose.

In regard to Dr. Blickhahn's case, speaker said he had been consulted by the patient six or eight months before his death, and an abnormal physical sound was found at that examination, but no explanation could be furnished. He was told to see Dr. Rohlfing for a microscopic examination, but could not get up a sufficient quantity of sputum. He had no cough.

DR. JOHNSTON.—What effect does creosote have?

DR. MULHALL said it has been suggested that there is no effect on the number of tubercle bacilli, but Professor Loomis ascribes the good effect to the constant disinfection of the alimentary canal. In this way no fermentation goes on, all the food taken helps building up the patient and assists in his natural recovery.

DR. THOMAS O. SUMMERS suggested that the leucocytosis excited by the creosote—an effect which is well known and recognized by microscopists—is probably the cause of the benefit which is derived.

DR. C. H. HUGHES said that, being a neurologist, he might be ruled out in a discussion like this, but during his five years' superintendency in an insane asylum he had had ample opportunity of getting a peculiar kind of clinical and personal experience with this trouble in mingling daily and hourly with the patients. Thus, during the five years one steward contracted the disease from a patient and died; the steward who followed also contracted the disease, as did also an assistant physician. The postmaster of Fulton had a cavity the size of a hen's egg, in the apex of the right lung, and recovered under treatment. One of the stewards recovered and the cavernous breathing disappeared with the development of the cicatrix, which occurred by residence in the atmosphere of Colorado. But in those days residence in Colorado meant living in a primitive manner. There was not the daily newspaper before breakfast, the telegrams and business worries, nor the modern means of travel and hotel accommodations; but when going to the mountains one had to go in ox carts, or mule carts, or on the back of a mule, and one slept out in the open air. This may be done with impunity in that climate during the greater part of the year. Pure air is a good remedy in phthisis pulmonalis; it is a great antagonist of the tubercle bacillus. There are two sides to the question of sending phthisical patients to health resorts for desirable climate changes. In this country patients used to be sent to Colorado and Winoma (in Minnesota) as they are sent to Montreux in France. And they used to recover at these places, owing to the rough manner of living and the enforced out-door life. But these places have become over-

crowded with consumptives; they have been visited by tourists and the usual convenience of travel and hotel accommodations have been supplied, so that at present the patients live in commodious, often over crowded, hotels and do not "rough it" as much as formerly. There is not enough of natural life, they lack the abundant pure atmosphere, and, in consequence, are not as greatly benefited as they were formerly.

Speaker has a great deal of faith in creosote and had used it extensively even before it was promulgated as a remedy in tuberculosis. He did not know how it acted, but observed that it promotes the healing of wounds by stimulating granulation. His first experience was with cases that were not tubercular in character. They were the first cases of that peculiar typhoid state that attacks the parotid gland and destroy it. In the case of one soldier the parotid gland had suppurated away and the process had made a perfect dissection of the neck. Creosote promoted the healing process, but the patient died. The other, similar, cases came under his observation, but these patients recovered.

The explanation of the value of creosote, given by Dr. Mulhall, that it keeps the alimentary canal in good condition, certainly describes one of its active processes. It anticipates fermentation. Speaker uses it before each meal in all cases of fermentative dyspepsia, and if there is the slightest evidence in phthisis in the case he pushes the dose to the stage of tolerance of the patient. Creosote given early in the case is one of the most valuable remedies, not only directly but indirectly in its effect, and when it is used the patient can take a superabundance of nourishment and an excess of fresh air, and these are the two principal remedies that we know of in the treatment of phthisis pulmonalis.

Speaker then spoke tersely of his view of the neuro-pathic aspect of phthisis. Neurologists, he said, are laughed at a good deal when they talk about a great many things in connection with diseases in general, yet the time is approaching, and it is not far distant, when the general practitioner of medicine will become largely neurological in his methods of thought. He is apt to look upon the heart as the seat of life, but he believes, nevertheless, that there are ganglionic centers which are concerned in the manifestations of life, as well as in receiving life from the blood, and in governing the metabolism of organisms. The neurologist, therefore, believes that he has just warrant in regarding neuropathic conditions—conditions of marked nervous exhaustion—as playing no insignificant part in preparing the system for the development of disease in general, and particularly in the production of the condition we know as phthisis pulmonalis.

This does not necessarily exclude the recognition of a microbic theory; that is, that theory that microbes are factors in the development of disease. There need be no quarrel between bacteriologists and neurologists in regard to disease, because the neurologist may perchance say that certain diseases are predetermined by certain conditions of malnutrition of organic nerve cen-

ters that lower the vital metabolism of the organism and impair the resistance of the individual, thus making the inception and development of microbic disease a possibility. That is the view taken by neurologists of the manner of infection in tuberculosis, and the facts seem to prove its correctness. The majority of the human race that do not die by accident or by epidemic disease die of phthisis pulmonalis. Especially is this so in institutional life, in hospitals and insane asylums, where chronic patients are kept whose nervous systems are run down. It is a frequent termination of life of the insane in asylums, of patients who are confessedly dependent upon the integrity of the vital organic nerve centers. These patients would remain immune to the tubercular infection and the inroads which it makes if their vital nerve centers had been in a moral state. The neuropathic aspect of the development of tuberculosis is rapidly becoming the accepted view among medical men.

The Second Pan-American Medical Congress.

The Committee on Organization of the Second Pan American Medical Congress has elected Dr. Manuel Carmona y Valle, President, Dr. Rafael Lavista, Vice President, and Dr. Eduardo Liceaga, Secretary, and has announced November 16, 17, 18, 19, 1896, as the date of the meeting to be held in the City of Mexico.

The most cordial invitation is extended to the medical profession of the United States to attend and participate in the meeting.

Titles of papers to be read should be sent at the earliest practicable date to Dr. Eduardo Liceaga, Calle de San Andres num 4, Ciudad de Mexico D. F. Republica Mexicana.

The date selected is in the midst of the delightful midwinter season when the climate of Mexico is the most attractive to the northern visitor.

The occasion should stimulate the medical profession of the United States to a most cordial reciprocation of the generous patronage accorded the Washington meeting of the Congress by our Mexican confreres.

It should be remembered that the United States is the largest, and in many regards the most important of the American countries and that as a consequence more is expected of it than of any other Occidental Nation. In no particular is this more true than in the maintenance of position in the realm of scientific medicine on the Western Hemisphere. It is, therefore, simply essential that in this Congress—the most important of all Medical Congresses, in its exclusive, yet broad, American significance—the best thought and the best work of the American profession shall be conspicuous in the proceedings.

The zeal and enthusiasm of the Mexican profession and the active interest of the Mexican Government are co-operating to make the second Pan American Medical Congress attractive, important and memorable.

Those who contemplate attending should send their names and addresses at as early a date as possible to Dr. Charles A. L. Reed, St. Leger Place, Cincinnati, that the Committee in Mexico may be advised of the probable attendance.

WILLIAM PEPPER,

Ex-Officio President.

A. M. OWEN,

A. VANDER VEER,

CHARLES A. L. REED,

Ex-Officio Secretary.

International Executive Committee for the U. S.

ABSTRACTS

MEDICINE.

Syphilitic Spinal Disease.—Dr. Sottas has published an elaborate study of syphilis as it affects the spinal cord. The author has formulated the following conclusions as resulting from his observations on this important subject (*Inter. Med. Mag.*):

1. Syphilis can act on the nervous system in two ways: First, directly; in attacking the parenchyma, it determines thus at the onset of the affection the first vague nervous troubles of the secondary period, and later, perhaps, certain systemic affections, as tabes. This mode of action is not clearly explained, for there are no anatomical characteristics which permit us to recognize the origin of the affection which are attributed to it. Second, indirectly, in producing an inflammation of the vascular, lymphatic, and connective-tissue elements. The alteration of the parenchyma is secondary to these lesions. The reality of this process can not be disputed; it is affirmed by the aspect of the inflammatory lesions, which, although not special to syphilis, are nevertheless to a certain point characteristic of this affection. The process can strike all parts of the cerebro-spinal system, but is limited sometimes exclusively to the cord.

2. Syphilis of the cord appears at a period near that of infection, with a maximum between the end of the first year and the end of the sixth, and is much more frequent in men.

3. The inflammation begins with the vascular walls and perivascular regions and involves especially the small vessels of the periphery of the cord. In the large vessels it involves the internal and especially the external tunic, developing about the vasa vasorum. From this point it involves the perivascular lymph space, afterward the lymphatic system of the meninges, and finally the entire arachnoid cavity. The infection spreads by the circulatory system and rapidly in the lymphatic system, where it assumes an independent form. At this period the lesions are constituted by:—An inflammation of the vascular walls, which attains its

maximum in the veins and small vessels; a diffuse general infiltration of the connective tissue of the meninges; an irritation of all the surfaces bathed by the cerebro-spinal fluid (surfaces of the meninges, ventricular walls). These inflammatory lesions are characterized by a tendency to nodular formations (miliary gummata of the meninges, of the vessels, of the cord).

4. The alterations of the nervous parenchyma, of the essential elements, and of the neuroglia are secondary; they may result from imperfect nutrition on account of the vascular lesions of the cord and of the nourishing membrane, or from an invasion of the medullary parenchyma by the specific infiltration. The first is the more important cause.

5. According to the intensity, the distribution, and the rapidity of evolution of the primary lesions, the enemic necrosis of the nervous tissue appears abruptly as a transverse softening, which may be located at different points of the cord or predominate in one or the other vascular department; or else it appears slowly, and then the destruction is accompanied by a process of substitutive reaction of the neuroglia, which replaces the destroyed elements. This period of substitution is favored by the partial return of the circulation (collateral circulation, development of the vasa vasorum, formation of new capillaries in the obliterated vessels), and terminates in the neuroglia sclerosis. The connective tissue which enters the cord with the vessels is also thickened.

6. Although the necrobiotic lesions followed by sclerosis constitutes the principal alteration, there are certain medullary and especially radicular changes, which result from the invasion of the nervous tissue by an infiltration extending from a point in the meninges or from a perivascular sheath. This process can in certain cases assume a considerable importance.

7. While the lesions preserve the same characters, they may vary in their distribution. They are generally diffuse, but they sometimes assume the aspect of a transverse lesion, more or less intense, more or less limited, and located at different heights of the cord. They can be distributed more irregularly in a considerable extent of the cord. In every case they are more marked in the marginal zone. The dorsal location is the most frequent. Be the lesions confluent or be they disseminated the result is always the same, and they produce the effect of a transverse lesion, accompanied by a secondary degeneration ascending and descending. The lesions involve especially the territory of the posterior lateral spinal vascular system. They may predominate in certain regions of the cord—the lateral columns, the gray substance of the anterior horns—and thus simulate certain systemic affections.

8. The ordinary clinical evolution is as follows: At the period of formation of the primary vascular lesions and of those of the meninges, there are diffuse premonitory phenomena. At the period of softening and of degeneration of the nervous elements there is an attack of paraplegia, followed by paralytic phenomena and

grave trophic troubles. At the period of sclerosis there is the chronic spastic paraplegia. The abrupt onset can be manifested without being preceded by a prodromic phase, or in other cases the spastic paraplegia comes slowly without passing through the acute stage.

9. Death may occur either in the first period of the affection from the localization or extent of the lesions, or more slowly from the progress of the affection or from a complication. The ordinary termination of the affection is a spastic paraplegia persisting in a chronic state after an amelioration more or less marked. The complete recovery is possible only in certain conditions, when the primary vascular and meningitic lesions have been arrested before the final destruction of the nervous parenchyma. The reorganization of the necrosed nervous tissue, if it is possible, is manifested only in a limited degree.

10. In certain conditions the primary inflammation is accentuated in the meninges, producing a meningitis or a pachymeningitis, or else it assumes the form of a circumscribed gummatous neoplasm.

11. The iodo-mercurial treatment is demanded at the appearance of the first symptoms. It acts only on the primary inflammatory productions and is without influence on the necrobiotic lesions once established.

12. The medullary syphilis is always a serious affection. Death may intervene in spite of treatment, especially in the acute forms. Outside of certain rare fortunate cases in which complete recovery is obtained, the amelioration never goes beyond a certain limit, which is fixed, on account of an incurable sclerotic cicatrix of the cord.

Yeast Nuclein in the Treatment of Hip-Joint Disease.—In the *American Lancet* for January, 1895, Dr. Charles W. Hitchcock, of Detroit, remarks that not all cases of hip disease are, with any fair promise of success, amenable to conservative treatment. Cases long neglected, in which erosion of the joint structures has already occurred, together with suppuration and resulting fistulæ, are not encouraging instances for non operative measures. An early diagnosis is of the utmost importance, that the case may be taken in hand before gross and irreparable damage has placed it beyond the reach of any save the most heroic treatment.

The nucleins, says Dr. Hitchcock, are among the newer remedies that may do much as an aid to tissue-building, more especially as they are said to influence cell metabolism so as to bring about a healthy resistance to disease processes.

The germicidal properties of nuclein, he continues, have been demonstrated, and Vaughan and McClintock have shown that the germicidal constituent of blood-serum is a nuclein. Parke, Davis & Co., he says, have rendered yeast nuclein accessible to the profession. They make it for Dr. Vaughan and according to his formula; the solution which they supply is about a 1% solution. Of this solution of yeast nuclein, from five to sixty minims may be administered at a time. The

dose may be increased gradually and cautiously from the initial dose (which may appropriately be about ten minims), regard being had to the febrile reactions, which may be decidedly marked and are to be looked out for.

He then gives the following report of a case: March 80, 1894, I first saw Miss L. C., aged 20 years, of English parentage and in this country only about two years. She is one of a family of six children. One sister died at 10 months, and one sister, aged 19 years, has of late had what is reported by letters from her home "dropsy of the knees." The father and mother are both living and are healthy, so far as I can learn. One maternal aunt died of consumption. The patient herself is of medium size, rather rosy complexion, and somewhat delicate in appearance. The young lady gives a history of having been always well until December, 1890, when she fell on a sidewalk and struck on the left hip. The following month she fell on the ice on the same hip, which, she says, "has seemed weak" ever since this second fall, though she was able to be about as usual and tried to persuade herself that she had no serious trouble. She went to the World's Fair in the fall of 1893, and each day's sight seeing tired her greatly. Her left knee would pain her at night and the hip would ache; but she would not give up to it. Later, after her return home, her hip began to pain her intensely after every walk. The first pain was in the knee, and more or less still continued there, but the hip now grew so exquisitely sensitive and painful that all use of the leg had to be given up, and for three weeks before I saw her she had not walked at all. She was obliged to lie on her back or right side, and I found the left leg well flexed and adducted. Any attempted passive movement of the leg seemed to give great pain, and the whole region about the hip-joint was so sensitive that even the slightest pressure of the finger could scarcely be borne, though at the same time the sensitive area presented nothing on inspection to attract notice. Any attempt with the patient on her back to extend the leg, quickly caused an arching of the pelvis to correspond to what little extension could be endured.

Removal to the Harper Hospital was proposed and consented to. She endured the ride of two miles in the ambulance very well, and was admitted between 5 and 6 p.m., March 30, with a temperature of 99.6°F., and a pulse of 80. Lead and opium stupes were applied to the region of the sensitive joint, and under their use the acute tenderness so subsided that on April 3, by careful manipulation, we applied a simple Buck's extension, the plaster being applied the whole length of the thigh and leg. This was kept up for several weeks and with quite a heavy weight, greatly to the relief of the patient, pain gradually disappearing from the direct region of the joint, being longest complained of through the groin.

June 1, I applied a plaster-of-Paris cast enveloping the entire left leg from the ankle up, and extending around the pelvis. An extra sole of about 1½ inches in thickness was now applied to the sole of the right foot,

crutches were secured, and the patient was encouraged to be up and about. She soon began to walk some each day, but the weight of the cast annoyed her and its pressure about the pelvis irritated her (though it really fitted very well), and she found a semi-reclining position in a wheel-chair much more comfortable than the erect position. The cast had been relied on to make necessary extension, but now became somewhat loose and was removed on June 27. Two days later a Buck's extension was again applied. The patient had not borne the confinement to bed and hospital well; she did not sleep or eat with relish, and was getting thin, although the hip was now very comfortable. She therefore decided to leave the hospital, which she did on July 6.

On July 4, under chloroform, I injected from two to four drams of a 10% iodoform emulsion into the joint cavity. I took this opportunity to completely flex the leg on the thigh and the thigh on the body. There was no adhesion or resistance in either joint, and no feeling as of erosion or thickening about the hip-joint. During her stay in the hospital the temperature varied from normal to 100°, but the most of the time between normal and 99.2°. The pulse varied from 76 to 110. Malt, hypophosphites, cod-liver oil, and other remedies had been given, but had not been well borne.

At home she was for a short time kept in bed, with extension, but soon she tired of this and insisted on being up and about on her crutches. She improved somewhat in appetite and felt much better, but still slept poorly. She had no pain in the hip, and took several long walks and rides in the street cars. She presumed too much upon her ability to do, however, so that restrictions were necessary. Extension hardly seemed called for, but I had a Thomas splint made for her—to thoroughly immobilize the joint. This she continually wore during the day, and with no discomfort save the awkwardness in sitting.

September 1, I began the systematic use of yeast nuclein, and the improvement almost from the first has been noticeable and extremely gratifying. The remedy has been administered hypodermatically, and the site chosen was the region immediately around the affected hip-joint. The first few injections were made daily, but the reaction seemed to me so marked that I found treatment on alternate days to be more satisfactory. It has been recommended, as a good precaution, to sponge the chosen site with a 2 or 3% solution of carbolic acid, for its antiseptic and local anesthetic effect. This precaution, however, I did not find necessary, but used great care with the needle and syringe, sterilizing both each time before using.

From September, '94 to January, '95, the case was under constant supervision and care, and correct and detailed reports were kept, noting the patient's temperature, general condition, and especially the amount of nuclein solution which was injected at each visit. At the beginning, 12 minims only were used in each twenty-four hours, this being gradually increased to 50 minims with the happiest results. There were at times some

pain and a burning sensation at the site of the injection. The temperature each afternoon was about 99 to 99.4°, on one or two occasions going as high as 101.2°. At the time of the last-named date the patient experienced no pain whatever in the hip and expressed herself as feeling as well as ever. The nuclein was temporarily stopped, and I do not consider it accomplished all a continuance of it might do. The improvement has been most gratifying since I began giving the nuclein, and I think there can be no doubt that her comfort has been due, in a large degree, to this remedy. It was given with the idea that her case was probably tuberculous, and for this suspicion the family history affords us more or less ground. The nucleins are said to be of no avail in incipient tuberculosis, and this seemed a good case for their use, which is, of course, as yet largely empirical. The disease process in this case certainly seems to have been held in abeyance. Whether the action of the nuclein in such a case is simply to enable the cellular elements to resist the encroachments of bacilli, or whether we may hope for so strong a germicidal action as to destroy entirely the bacilli, is, I judge, a question concerning which one can, as yet, only speculate. This patient understands that she is forbidden to step on her left foot or use the limb before next summer, and the day may then be still further postponed. I do not yet regard, or now report, the case as one of recovery, but it seems to me especially interesting as showing gratifying improvement under the use of an agent, quite new as yet, which may have a wide field of use. I hope eventually to have this young lady walking without apparatus of any sort and an evidence of what conservative treatment may accomplish, even in a somewhat unfavorable case.

In a postscript written in January, 1896, Dr. Hitchcock adds:

This patient was kept under frequent observation until May, 1895, the splint having been discarded some time earlier. In May, first one crutch, then both, and later the cane were dispensed with, the injections of nuclein were discontinued, and the patient has since walked through the summer and fall without support of any kind and without any discomfort whatever in the hip. She has been very happy and grateful for her relief from pain, and it has been delightful to see her evident joy in her ability to walk without suffering. Indeed, she has been altogether a pleasing fulfillment of what I hoped to do when I first reported the case in January, 1895, and this excellent result I attribute very largely, if not entirely, to the long and persistent use of nuclein.—*N. Y. Med. Jour.*

Lupus of the Tongue, with Histological Examination.—This lesion, being very rare, is considered of sufficient interest to report (J. Sarier, *Ann. de Derm. et de Syph.*). A woman, 21 years old, presented an ordinary lupus of the face, with numerous lupus plaques on the neck and right forearm. The beginning of the disease dated from the age of three

years, its point of origin being apparently a submaxillary abscess. The lesions had been scraped in 1891. Treatment and medication had been of no avail, the patient being weak and not allowing vigorous treatment.

At present all of the face and the sides of the head, except the front of the left ear, show the lesion. The scalp is free, the nose reduced to a small tubercle, the mouth deformed, the lips having been invaded. The chin, the hyoid, and upper sterno-mastoid regions show the lesion. Also the neck, the left axilla, the fold of the right elbow, and the anterior surface of the forearm. The condition of the mucous membranes is of special interest. The conjunctivæ are intact. The orifice of the left nostril is obliterated by cicatricial tissue, the right admits only a stylet. The mouth, always open, shows the superior incisors carious, the inferior laid bare. Most of the teeth are carious. The palatal vault is the seat of a lupus plaque. The mucous membrane of the right cheek is cicatrized and swollen, that of the left infiltrated. The gums are ulcerated in places. The uvula has disappeared. The posterior wall of the pharynx is infiltrated with lupoid tissue. The voice is nasal, but not hoarse. Upon the tongue there are two lupus plaques—one upon the dorsum, indurated, superficial, indolent, giving to the patient the feeling of a foreign body; the second plaque is upon the left border.

The date of the appearance of the plaques is not definitely known. According to the patient, they appeared insidiously, the lesions differing in many ways from the ordinary tubercular ulcer of the tongue. Palpation reveals indurated ganglia in the submaxillary region. There is no cough and no sputum, but at the apices of the lungs, and especially on the right side, there is slight dullness by percussion with increased vocal fremitus, blowing respiration, but no rales. The general condition is good; no emaciation. The histological examination showed tubercular nodules with giant and epithelioid cells. Six or eight of the follicles and twelve to fifteen giant cells were in each section. Between the nodules, disseminated in the chorion and the papillæ, are plasma cells, fusiform connective-tissue cells, leucocytes, degenerated cells. There is an elongation of the papillæ and an extreme hypertrophy of the epidermis. The bacillus of Koch was not looked for, nor were inoculations of animals made. It is remarked that the two lesions on the tongue are apparently entirely isolated one from the other. Ordinarily this lupus is not ulcerated, but mammillated and papillomatous. Histologically M. Seloir has found lupus demisclereux. Here there is a lupus which is clearly papillomatous, but not sclerous. The abundance of the plasma or connective-tissue cells in hyaline degeneration the author considers of great interest.—*American Med. Surg. Bulletin.*

German Surgeons.—The twenty-fifth congress of the German Surgical Society will be held in Berlin, May 27-30.

SURGERY.

Splenopexy.—The substitution of fixation in place of extirpation of wandering spleen is such an entirely rational method of treatment, that Plucker (*Cent. f. Chir.; Ther. Gaz.*), in the belief that cure can not be effected by simple fixation of the parietal peritoneum, devised and practiced the following method on a man of 23 years. The patient was placed in the Trendelenburg position and an immediate opening made. The spleen was found in the true pelvis, enlarged, thick and very movable. The patient having been placed on his right side, an incision four inches long was made in the middle axillary line over the crest of the ilium and the lower border of the ribs. A second incision was carried at right angles to this and parallel to the tenth rib, and of equal length. The cuts divided all the soft parts down to the peritoneum; the musculo cutaneous flaps were reflected; the peritoneum was loosened above and below from the tissue to which it was attached by means of the retro-peritoneal fat and connective tissue, and a small incision, just large enough to allow the spleen to be extruded, was made in this membrane. The spleen was now pressed from the belly through the opening, and secured in the retro peritoneal region. A line of suture placed circularly about the peritoneal opening narrowed the latter and fixed the parietal peritoneum to the vascular and ligamentous pedicle of the spleen. The spleen now occupied its normal position, excepting that it was to the outer instead of the inner side of the peritoneum. To secure it in this position a thread was thrown around the tenth rib and secured to the lower pole of the spleen. This thread was at once tied by a line of sutures, including the divided fascia below the tenth rib and the retro-peritoneal connective tissue and fat, so that the spleen was inclosed into the peritoneal pocket behind. A few interrupted sutures secured the upper portion of the spleen, and finally the thread thrown around the tenth rib was secured. This operation is not dangerous, is quickly performed, and gives permanent results.

Case of Perforated Gastric Ulcer; Laparotomy; Ggastrostomy; Recovery.—Paul (*Med. Chir. Jour.; Ther. Gaz.*) reports a case of gastric ulcer in which he successfully operated. The patient was 81 years of age and had suffered for a number of years from dyspeptic symptoms. Notwithstanding her constant pain and the advice of her doctor, she took a cold meat supper, which was followed by vomiting along with the most agonizing pain in the abdomen. The patient was found in a condition of most profound collapse, from which she rallied after some hours. Operation was begun nine hours after the onset of the first symptoms. An incision four inches long was made between the ensiform cartilage and the umbilicus. As soon as the peritoneal cavity was opened, sour-smelling gas and greenish liquid escaped, and the neighboring

viscera showed signs of commencing peritonitis. The ulcer, though in a most awkward position, was easily found, on account of its very large, hard and thick base, which made it feel like a malignant infiltration. It was located at the cardiac end of the lesser curvature, and it required some tension to keep it in view, even although the left rectus muscle was cut across to the margin of the costal cartilages. The rent was transverse, and measured about half an inch in length. Closure was extremely difficult, but was accomplished finally and reinforced by a tag of fatty omentum. The stomach was drained by the introduction of a glass tube, as recommended for gastrostomy. The patient suffered from hemorrhages from the stomach and from diarrhea, and had a protracted convalescence. When the stomach tube was removed, the opening closed.

Paul states that the cases reported since Mr. Gould opened a discussion on this subject at the Bristol meeting of the British Medical Association, all tend to confirm the views he expressed, both as to the causes of failure and the best means to attain success. The former may shortly be stated as: 1, collapse; 2, imperfect cleansing of the peritoneum; 3, further leakage of stomach contents. Fatal collapse is to be avoided by operating in the stage of reaction before peritonitis has fully developed. Operation should be as short and simple as is consistent with the object in view. The peritoneum is best cleansed by thorough flushing with hot water at a temperature of about 100°F. Peritoneal drainage is better not resorted to, except in those cases where peritonitis is fully established, and the most of these will die anyway. The third cause of failure—further leakage—is generally due to the inaccessibility of the ulcer, and the best means to be taken to avoid it have not yet been agreed upon. When the orifice can only be imperfectly closed, it may prove wise to drain the stomach by a temporary gastrostomy. When it is quite inaccessible, it might possibly be sutured through an incision in the anterior wall of the stomach. It is not every ulcer that could be got at, even in this way. The readiest way of meeting the difficulty was adopted by Mr. Maurice, of Reading, when he introduced an india-rubber tube into the stomach through the perforation, and packed it round with gauze. Washing out of the stomach is not generally a desirable proceeding.

The author holds that many cases of gastric ulcer can be traced to the use of corsets.

Re-Engrafting of Lost Skin.—D. Z. J. Lusk reports an extraordinary case of skin grafting in a man who had had two thirds of his entire surface scalded by falling into a pan of boiling brine. Great bags filled with serum hung from his sides and other parts of the body. Both arms were completely stripped of epithelium, which hung in shreds about the wrists. The thick calloused skin of the palmar surface of both hands was torn and in shreds. The dorsal surfaces were covered with sacks full of serum. There was a raw bleeding surface six inches wide extending from the left arm

the middle of the right scapula; one of the same character and size covered the lumbar region. The buttocks were covered with large blisters, but more superficially. The skin on the lower extremities hung in shreds, bleeding in many places, especially about the knee and ankle joints. There were numerous small vesicles on the face and neck, and large erythematous patches over the chest and abdomen, but no vesication except in the right infra clavicular region. The accident was followed by profound constitutional disturbance, and for several weeks the patient remained in a hopeless condition, but at the end of four weeks had sufficiently recovered that an effort could be made to repair the injury. After having resorted to various measures without success, Dr. Lusk hit upon the idea of utilizing the ample patches of dried and dead cuticle that still hung by their edges to the denuded and, in some parts, gangrenous and sloughing flesh. A piece of this crisp parchment was softened in warm boric acid solution, and divided into small grafts which were applied to a granulating surface. Seven of the twelve grafts took and rapidly developed into vigorous islands of skin. Encouraged by this successful result the author continued the grafting, which was completed in seven weeks, and in one month more the patient was able to return to work. There was no cicatricial contraction, and the free use of the joints and muscles was unimpaired. Dr. Lusk also used his experience to good advantage for the treatment of a varicose ulcer, the cuticle being obtained from a blister produced on the patient's thigh with cantharides. The epithelium was detached at the edges of the blister, washed in boric acid solution, after which all moisture was absorbed with sterilized cotton, and it was suspended in a bottle (aseptic cotton being used for a stopper), and kept at a temperature between 55° and 70° F. It was thoroughly dry in three days, when a piece one inch square was divided, making twelve grafts which were applied in the usual way. The results were extremely gratifying. Nine of the twelve grafts took nicely and grew rapidly, so that the ulcerated surface was healed, having a substantial epithelial covering.—*International Journal of Surgery.*

OBSTETRICS AND GYNECOLOGY.

The Bacteria of the Female Genital Canal, and Their Relation to Endometritis.—The unsatisfactory classification of the different varieties of endometritis has led Doleris, Winokel, and others to attempt a classification based on bacterial examination of the endometrium (Sigmond Gottschalk and Robert Immerwater, *Arch. f. Gyn.*). In order to determine how far the above classification is practicable, the authors have made careful bacterial examinations in all cases of endometritis coming into their clinic during the past two years. In 60 cases secretion was obtained from the cavity of the uterus and exam-

ined microscopically and by cultures with the following results: In 21 of the patients, mostly cases of fungoid endometritis, no bacteria were found, and in most of the cases repeated examinations gave negative results. Seven of the 21 cases showed the presence of bacteria of some kind after frequent intra-uterine manipulation, probably due to inoculation by the instruments. The bacteria, however, were not pathogenic. These observations agree with those of Doederlein and Bumm, who assert that there are certain forms of chronic hyperplasia and chronic catarrhal endometritis corporis which are not of bacterial origin and exist without the presence of bacteria.

The 39 remaining cases in which bacteria were found may be divided into two groups—those in which staphylococci were found, and those in which non pathogenic bacteria were present. Streptococci were absent in all cases examined.

The staphylococcus cases are subdivided into two groups—primary infection, and secondary infection.

The first subdivision includes seven cases. Two of these had a profuse, purulent, sometimes bloody, foul-smelling secretion from the uterus, which contained no gonococci and differed from gonorrhea of the uterus in that there was a foul odor, which is never present in that disease. These cases, together with three others not in this list, led the authors to believe that there is a certain form of purulent endometritis, caused by the staphylococcus pyogenes albus, which can be recognized clinically by the foul odor and occasional bloody color of the discharge.

Most of the cases in this group date their disease back to a labor or abortion in which they suffered from fever.

Secondary staphylococcus infection occurs after an acute gonorrheal endometritis. Four cases are recorded in which the gonococci disappeared after about six weeks and the uterus contained only staphylococci, or staphylococci and several other bacteria. These cases indicate that gonorrhea so diminishes the resistance of the endometrium against bacteria that staphylococci find a good nidus for growth, while under normal conditions they would be thrown off. The necessity of the utmost aseptic precaution in the treatment of gonorrhea is evident otherwise.

A secondary infection may cause a continuation of the inflammation after the gonorrhea proper has subsided.

Non pathogenic organisms were found in the remaining 28 cases, usually several kinds in each case. Fifteen different species are described, including seven forms of diplococci, four bacilli, two sarcinae, and two yeast fungi.

It is not definitely determined whether these so-called non-pathogenic organisms have any causal relation to the inflammation. Repeated inoculations proved them harmless when introduced into a healthy uterus or healthy urethra, but on an unhealthy mucous membrane it is not improbable that their mere presence may

cause irritation enough to keep up an inflammatory process. Moreover, most of the organisms produce a chemico toxic substance, which cause more or less irritation on an early diseased membrane. Many of these cases are cured by applications of iodine or some other antiseptic which gets rid of the germs.—*Amer. Med. Surg. Bulletin.*

NOTES : AND : ITEMS

Members of the Missouri State Medical Association.—The annual meeting of the Missouri State Medical Association which will be held at Sedalia May 19, 20 and 21, 1896, promises to be of unusual interest and a number of valuable papers will be presented. The most direct line to Sedalia from this city is the Missouri Pacific Railway, which offers a number of advantageous trains whereby members may save time. Three trains leave Union Station daily and we suggest that members who will attend this meeting should call upon the ticket agent Broadway and Olive Street for particulars. The Missouri Pacific Railway always makes concessions to this Association and will furnish tickets at one and one-third fare for the round trip. When purchasing your ticket the agent will furnish you a certificate which, when countersigned by the Secretary of the Association, will enable you to purchase a ticket to return at one-third fare.

Baptist Sanitarium.—Dr. B. A. Wilkes, of Bowling Green, Mo., has been appointed superintendent of the Baptist Sanitarium in place of Dr. Mayfield, whose resignation has been accepted by the Board of Managers.

A Gift to Columbia.—The Chemistry Building for the Columbia University is to be erected as a memorial to the late Frederick Christian Havemeyer. President Low has received a letter presenting the building, which is to bear the name of Havemeyer Hall. The gift is made by the sons and daughters and nephews of Mr. Havemeyer.

The Newer Remedies, A Reference Manual for Physicians, Pharmacists and Students, is a most useful little book affording a quick survey of the source, composition, dose and indication of all the newer remedies. The little work is edited by Vigil Coblenz, A.M., Phil.D., F.C.S., Professor of Pharmacy and Pharmaceutical Chemistry in the New York College of Pharmacy, etc. The work may be secured by applying to the Publishers, D. O. Haynes & Co., New York, and McKesson & Robins, New York. Price, 50c.

The Study of Diphtheria in Switzerland.—The Swiss Government has instituted a collective investigation of diphtheria on a national scale, which is to be continued for two years from March 1, 1896 (*Med. Rec.*). Every case of the disease, whether under the care of a private practitioner or in a hospital, is to be notified to the local sanitary authority, and every week a report is to be sent to the Swiss health office at Berne. Forms of this purpose with addressed wrappers are supplied to each practitioner. In order to insure completeness, and as a measure of justice to the physician, a small fee will be paid by the authorities for each form duly filled and dispatched.

The William F. Jenks Memorial Prize.—The Fourth Triennial Prize, of \$400, under the deed of trust of Mrs William F. Jenks, will be awarded to the author of the best essay on "The Etiology and Pathology of Diseases of the Endometrium, Including the Septic Inflammations of the Puerperium."

The conditions annexed by the founder of this prize are, that the "prize of award must always be for some subject connected with Obstetrics, or the Diseases of Women, or the Diseases of Children;" and that "the Trustees, under this deed for the time being, can, in their discretion, publish the successful essay, or any paper written upon any subject for which they may offer a reward, provided the income in their hands may, in their judgment, be sufficient for that purpose, and the essay or paper be considered by them worthy of publication. If published, the distribution of said essay shall be entirely under the control of said Trustees. In case they do not publish the said essay or paper, it shall be the property of the College of Physicians of Philadelphia."

The prize is open for competition to the whole world, but the essay must be the production of a single person.

The essay, which must be written in the English language, or if in a foreign language, accompanied by an English translation, must be sent to the College of Physicians of Philadelphia, Pennsylvania, U. S. A., before January 1, 1898, addressed to Barton Cooke Hirst, M.D., Chairman of the William F. Jenks Prize Committee.

Each essay must be typewritten, distinguished by a motto, and accompanied by a sealed envelope bearing the same motto and containing the name and address of the writer. No envelope will be opened except that which accompanies the successful essay.

The Committee will return the unsuccessful essays if reclaimed by their respective writers, or their agents, within one year.

The Committee reserves the right not to make an award if no essay submitted is considered worthy of the prize.

JAMES V. INGRAM,
Secretary of the Trustees.

Now is the time to subscribe for the **MEDICAL REVIEW.**

The Therapeutic Effect of Antiphthisin.

—In November, 1895, the Parish Medical Society of New Orleans, appointed a commission for the investigation and a public test of antiphthisin, as to its value in tuberculosis, to be made in the Charity Hospital of New Orleans. The commission consisted of the following members: Drs. Edmond Souchon, President; A. J. Bloch, Secretary; J. D. Bloom, House Physician of the Charity Hospital; F. Loeber, Charles Chassaingnac, J. H. Bemis, Joseph Holt, H. L. Lewis, P. E. Archinard, O. P. Pothier, McShane, C. J. Lanfried; Professors R. Matae, John Elliott, and F. W. Parham. The treatment of cases began November 27, and its final report was presented to the Society at its regular meeting, March 28, 1896. The report is voluminous, and will be published in full. The following are the conclusions in surgical cases:

"A consideration of the three improved cases would certainly lead us to believe that antiphthisin has decided value, and we should commend its careful tentative employment in such cases, in conjunction with general measures and the usual appropriate surgical operative treatment. The glandular case we consider especially encouraging. This case would seem to have required a most serious operation for the removal of the gland, with great uncertainty of ultimate benefit. The improvement under the antiphthisin treatment would alone justify us in ascertaining that we have in this remedy a most valuable aid in the management of such cases. We beg to call attention, in this connection, to the case of Dr. Ambler, of Ohio, reported recently in the *New York Medical Record*, as confirmatory evidence of the value of antiphthisin in glandular tuberculosis. The hypodermic employment of the remedy would seem to be especially advantageous if administered under careful aseptic precautions.

Conclusions in medical cases:

1. In nearly every case the area of lung involved decreased, if it did not clear up entirely.
2. Auscultation bore out the results of percussion, vesicular respiration replacing, in a greater or less degree, morbid breath-sounds. In those cases which were classed as cured, the departure from health being only such as is due to the results of every continued pneumonic process.
3. Secretion was diminished even in the cases marked only improved, and entirely absent in others.
4. Bacteriologic reports in most of the cases bore out the results obtained in physical and other examinations.
5. The general condition of the patients improved in the large majority of cases, even in those whose physical examination did not show any great improvement.
6. The use of the remedy was not attended with any danger to the patient.
7. Finally, antiphthisin does seem to have curative, and not simply palliative qualities.—*Jour. Am. Med. Ass'n.*

PUBLISHER'S DEPARTMENT.

REPORT FROM IDA N. BEAVER, M.D., Denver, Col.: "I have found Wine of Cod Liver Oil useful in some twenty cases, but have been most pleased with it in cases of nervous debility, in early convalescence, in typhoid and mountain fever, and I consider it an ideal tonic for nursing mothers."

A WARNING TO THE PROFESSION. Spurious Aseptolin-Edson on the Market.—Many of these spurious preparations have been analyzed by Professors Berry, Endemann and Mott, noted chemists in New York City, who say they are quite different in composition from the genuine. Experiments have been made with several of the counterfeits of the Aseptolin-Edson in which injections proved fatal to guinea-pigs, although the same quantity of the genuine produced no ill effects.

An interesting report of Dr. Ransom's treatment of fifty cases of tuberculosis at Clinton Prison, Dannemora, N. Y., sent on application by the Equitable Chemical Co., 30 Reade Street, New York City, N. Y.

HOW TO GET RICH.—All wealthy men will tell you that it is not what a man makes that makes him rich as much as what he saves. How to begin—take one item in daily outlay.

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VOMITING IN PREGNANCY.—Vomiting in pregnancy is today one of the most difficult conditions with which the physician has to deal. The patient is seized with uncontrollable vomiting, is soon exhausted, and on account of the extremely delicate condition of the patient at the onslaught of these attacks, she not infrequently becomes dangerously ill. The attack is generally preceded by severe pains in the abdomen, accompanied by faintness, which is immediately followed by vomiting. The author has tried a great many remedies for this vomiting in pregnancy, and with varied results.

What is a remedy in one case may have absolutely no effect in another and similar case. However, I received a sample of Ingluvin by mail about a year ago, and as I had at the time a very persistent case of vomiting in pregnancy, which had resisted all remedies I had used, I determined to try it. The patient was extremely emaciated from the continued vomiting, and was very despondent. I administered 10 grains at first, followed shortly after by another dose of similar proportion. The effect was quickly discernable. The vomiting decreased. I continued the treatment with most gratifying results. My sample being exhausted, I purchased a one-ounce original package, and am glad to say that my patient went to full term uneventually and made a good recovery. She has rapidly regained her previous good health, and I attribute it to that matchless remedy, Ingluvin, and shall always prescribe it wherever indicated.

CASE 2.—I was recently called to see Mrs. S. Examination proved her very anemic and emaciated, and at the time of the attacks of vomiting became very weak. Remembering my previous experience, I immediately prescribed Ingluvin, and had remarkable results, similar to case No. 1. I am confident that Ingluvin undoubtedly saved the life of this latter patient.—*From Monthly Retrospect of Medicine and Pharmacy.*

MEDICAL REVIEW,

A WEEKLY JOURNAL OF MEDICINE AND SURGERY.

VOL. XXXIII.

ST. LOUIS, MAY 23 1896

NO. 21.

ORIGINAL ARTICLES

Gall-Stones.

BY C M HOLCOMB, M D, WINFIELD, KANS.

Read before the South Kansas Medical Society.

MR. PRESIDENT AND GENTLEMEN:—In compliance with the request of our Secretary for a paper for this meeting, I suggested as the title of my paper, "Gall-Stones," not at that time having determined fully in my mind just how I would present the subject. Since then my determination was to confine myself principally to the operation of cholecystotomy.

DEFINITION.—Under this designation are included such operative measures for the relief of the disorders of the gall-bladder as may be undertaken beyond puncturing of the sac, through the abdominal walls and without complete excision of its tissues.

HISTORY of the operation properly dates back to the year 1859 when Thudichum, in a paper on the "Pathology and Treatment of Gall-Stones" first proposed this operation. Mr. Maunders in a paper in the *British Medical Journal*, 1859, proposed to stitch the walls of the gall-bladder to the abdominal walls and to open it afterwards. Later on, Hanfield Jones, in the *Medical Times and Gazette*, 1878, proposed cholecystotomy. The actual operation, however, was first done by two American surgeons in 1867. Dr. Bobbs (Trans. Ind. State Med. Society). To Sims, however, belongs the credit of first distinctly formulating such an operation and of practically perfecting it, both in design and technique (*British Medical Journal*), 1878.

INDICATIONS—The bile ducts sometimes become dilated behind an obstructing concretion, which usually consists of gall stones or other biliary concretion. The extent and seat of the dilatation depending upon the seat of obstruction. If a closure of the common duct, we have an accumulation and stagnation of the bile in the gall-bladder as well as in the hepatic ducts and its branches. The secretion which accumulates behind an obstruction is not always bile. If occlusion of the cystic duct occurs, it is evident no bile will accumulate in

the gall bladder. When no secretion is poured into a gall-bladder, by reason of its ducts being obstructed, the normal contents become, usually, inspissated, or even calcified. Under such conditions, the bladder usually shrinks, and if an inflammatory action ensues, its walls become thickened. The development of an inflammation and consequent ulceration in the tissues of the gall bladder occurs at times without presenting any serious symptoms, and well authenticated cases are on record where an external pointing of pus has taken place without any marked constitutional symptoms. Most frequently, of course, the progress of a dilatation of the gall-bladder, with the consequent suppuration and disorganization indicates the serious nature of these cases. If we have any of the four following conditions, according to Musser, the indications are for operation: first, jaundice; second, tumor in right hypochondrium, presuming it to be a distended gall-bladder; third, frequently recurring paroxysmal pains; and fourth, symptoms of suppuration. He considered jaundice as one of the distinctive evidences of obstruction, it only being necessary to determine whether the jaundice be due to suppression or obstruction. Having determined the cause of the jaundice not to be due to suppression, we then may consider the cause of the obstruction. The presence of biliary calculi is the more common cause of obstruction, and to determine their presence, the surest sign is to see or feel them; otherwise a probable diagnosis is to be made if the patient has had attacks of hepatic colic, followed by jaundice and symptoms of duodenal catarrh, with putty-like stools. It is further corroborated, if the nutrition of the patient remains good after impaction has occurred, while the liver slightly enlarges, and the gall bladder increases in size. We may have, however, an hepatic colic without jaundice if the stone causing it be lodged in the cystic duct.

As it is not the purpose of this paper to enter into the details, too fully, we will allude cursorily to the technique of the operation and close with the report of a case. According to Keen, the incision should be made, as a rule, over the center of the tumor and parallel to the free border of the ribs. It should be at least three inches in length, giving room sufficient for thorough exploration, and enlarge it as need be. After the stoppage of hemorrhage, open peritoneum, and explore the condition of abdominal organs. Learn, if possible, the contents and character of tumor. The common and cystic duct are to be examined to determine the pres-

ence and situation of gall-stones. If any be found, Hanfield Jones advises that an effort be made to push them into the duodenum, or failing in that, to try and return them to the gall bladder. Whether any stones be found or not, the tumor should be aspirated and its walls incised and search made for stones as far as practicable, for not infrequently have stones passed through a fistulous opening, having been undiscovered at the time of operation. This fact is also used as an argument for the establishment of a biliary fistula in preference to stitching together the walls of the bladder and dropping it back *in situ*, thus closing the abdominal wound without drainage.

The following case came under my observation:

Mrs. R., aged 58, mother of three children. Previous health has always been good and a good family history. No record of any illness that would indicate hepatic trouble. Consulted me November 4, 1895, complaining of becoming easily tired and very nervous, feeling faint at times. Appetite and digestion good. Pulse 78. No fever. Prescribed a tonic and rest, as her work, being the wife of a farmer, was somewhat laborious. On November 7, was called to visit her, but found the only change was a quickened pulse, 90; temperature subnormal being 98° F. She was quite weak, not feeling able to be around much. Physical examination revealed nothing abnormal with any of the organs. Urinary analysis negative. That was the last time I saw the patient until December 5, but was frequently consulted at my office by her husband, and gastric disturbance was the chief complaint. Appetite became very poor and digestion much deranged. Constipated to a marked degree. On December 5, when called to see her, a marked change had occurred in her appearance and condition since last I saw her. Considerable emaciation had occurred. A pinched expression of face and a generally distressed look. She had had a chill and fever the preceding day, and on the 5th, which was the reason of calling me to visit her. Her breath was very foul, it being very noticeable on entering the room. Tongue thickly coated with a whitish furry coat. Temperature 102.5° F, pulse 114. Physical examination revealed an enlargement in right hypochondrium. The tumor mass extending from lower border of ribs, downward about four inches and as far to the left as medium line. A positive diagnosis was not made, but the family was informed that an operation was necessary to save life. As they desired time in which to consider about submitting to an operation, I employed my time in trying to reach a correct diagnosis. I considered the following as being possibilities: A floating kidney; malignant disease of the pancreas and disease of liver and gall-bladder. I rather discarded the idea of floating kidney, as the form of the tumor and its immovability, and the history of no past trouble, made it improbable. The question of malignancy was thoroughly considered, and I was inclined to believe that such might be the case, owing to the rapid decline in general health since first she consulted me, November 4. Yet I was forced to

admit the doubtfulness of it, owing to the short time of duration of the disease. As to the liver trouble, abscess received the chiefest consideration, and really gall-stones was not considered, as there was absolutely no previous history to lead one to suspicion them. It is true, that great pain and tenderness was present at the time of my visit, December 5, and continued up to time of operation December 8. On that date, all arrangements having been completed, assisted by Drs. Evans and Pickens, I made an incision through the linea alba, though previously having determined to open in the semi-lunaris. The reason of the change was, that when the patient became anesthetized, distinct fluctuation could be felt in the median line. On opening through the peritoneum, the liver was found presenting a full hands' breadth below the lower border of ribs, and directly over line of incision was the gall-bladder, the lower end just being visible from beneath the liver. Its walls were so thin that the color of the contents was plainly visible. After packing thoroughly around it with sponges, a very small incision was made into it, and a stream of thin, pale yellowish pus escaped, with sufficient force to carry it several feet beyond the patient. While the pus was not measured, the estimated quantity was twenty ounces, which I deem a very conservative estimate. After evacuation of the fluid, the incision in gall-bladder was enlarged sufficient to allow entrance of my index finger and the exploration revealed numerous gall stones. On removing them, there were sixteen large (6 gra. each) and two very small ones, about the size of a millet seed. In color, a pale yellow, all faceted. After thoroughly flushing the abdominal cavity, a perforated glass tube, curved upward, was inserted into the gall-bladder, which, with the swollen conditions of the liver, brought it in apposition with the abdominal walls. We deemed the bladder walls too thin to hold a stitch, so did not attempt to stitch to the walls of the abdomen. Closure of abdomen was made in usual manner, dressings applied and patient put to bed in good condition. No rise of temperature occurred at any time afterward and the pulse at the end of twenty-four hours was 80 and so remained. The next day a free flow of bile soiled the dressings so they had to be changed. On the next day, bowels moved naturally, and looked natural. The flow of bile ceased at the end of thirty-six hours, and forty hours after operation the drainage tube was removed. Stitches removed on the eighth day, union having taken place by first intention. The progress of the case since then has been all that could be asked for, as she seems to be in as good health as usual.

Dr. Julius Engel Reiners, of Hamburg, Superintendent of the Municipal Hospital of that city, passed through this city on his way to the Yosemite Valley and California. He is on a two months' leave of absence and expects to make a longer stop here on his way back to New York.

Croup: With Report of Cases.

BY G. W. MOODY, M.D., SHELBYVILLE, TENN.

Read before the Tennessee State Medical Society, Chattanooga, Tenn., April 14, 1896.

This is not intended as a treatise upon croup; it is my purpose to offer only a few practical suggestions, illustrated by a report of several interesting cases successfully treated.

The term croup, as commonly used, applies to affections of the larynx having different pathological conditions, characterized by a peculiar cough, which is described as harsh, shrill, ringing, crowing or metallic, and frequently accompanied with stridulous breathing. It is usually found in children from one to six years of age, but may occur at any age. Excluding diphtheria, there are three classes of laryngeal disease accompanied with croupy cough and breathing. These are:

1. Acute laryngitis with exudation upon the mucous surface forming a false membrane.
2. Acute catarrhal laryngitis, with submucous infiltration.
3. Subacute catarrhal laryngitis.

Diphtheria of the larynx and croupous laryngitis are two distinct diseases. Diphtheria is epidemic and contagious; croup is sporadic and non-contagious. Diphtheria is a constitutional disease; croup is local. In diphtheria the exudation is imbedded in the substance of the mucous membrane as well as upon its surface; in croup the exudation is upon the mucous surface. In diphtheria the laryngeal symptoms are preceded by constitutional symptoms and by exudation upon the pharyngeal wall; in croup the laryngeal symptoms are primary. In diphtheria the submaxillary glands are enlarged, with external connective tissue-swelling; in croup there is no external swelling. In diphtheria the Klebs-Loeffler bacillus is found in the exudation; in croup this bacillus does not exist. These characteristics, without going into further details, are sufficient to stamp the two diseases as distinct.

Exudative laryngitis, which is not diphtheria, is commonly called croup; while acute and subacute catarrhal laryngitis are called false croup, because of the absence of fibrinous exudation. It is best to class these affections as above, according to the pathology and anatomical lesions. Although it is common to divide them into membranous, or true croup; and spasmodic, or false croup; there is a spasmodic element in all of them, as well as a certain degree of inflammation; the difference being that in exudative and infiltrative laryngitis, in addition to the spasmodic element, the inflammation is more serious and violent in nature and degree than in the subacute, with doubtless the coexistence in the latter of pathological elements other than catarrh of the mucous membrane which contributes to laryngeal spasm.

In subacute laryngitis there is no obstruction to respiration except what is occasioned by spasm or accumulation of mucus. The manifestation of croup is due

to spasm. The laryngeal mucous membrane is extremely sensitive, perhaps more so than any other structure in the body, and this is a wise provision because it is sentinel over such vital parts. A drop of purest water, or the least particle of any thing in the larynx will produce violent spasm. While this extreme irritability is a necessary safeguard against foreign invasion, it is a source of aggravation to the affections under consideration.

Subacute laryngitis is distinguished from acute infiltrative laryngitis and exudative laryngitis by the occurrence of paroxysms of dyspnea, chiefly at night, in the former disease, with comparative ease during the day; the absence of fever both day and night, and with but little disturbance of the system between paroxysms. Subacute laryngitis is not important except the suffering of the patient and the liability to develop into acute laryngitis.

Acute infiltrative laryngitis is a dangerous disease; the danger is due not so much to the severity of the disease as the locality. The same amount of inflammation in other localities would not create so much disturbance. The submucous infiltration and swelling, with laryngeal spasm unite to obstruct the passage of air through the larynx. Laryngeal stenosis may occur to such an extent as to necessitate tracheotomy or intubation to save life.

In exudative laryngitis the characteristic feature is the exudation of fibro plastic material which adheres to the mucous surface, forming a false membrane. The exudation may be in very small patches or may line the whole larynx and trachea and extend into the bronchi. It is sometimes deposited upon the wall of the pharynx and epiglottis, where it is visible. It is rare for the exudation upon an inflamed mucous surface to be of this nature; it is so in fibrinous pneumonia, hence called croupous pneumonia. Oftener the exudation from an inflamed mucous membrane is composed of serum, epithelium and pus, which is easily distinguished and removed. It is difficult to understand why in some cases of laryngitis the exudation should be fibroplastic, while in others it should be of that nonfibrinous nature called mucus. In the former there is probably some morbid constitutional condition which contributes to this form of exudation, or there may be some kind of altered condition of the epithelium which admits of this exudation. In traumatic inflammation of a mucous membrane, produced by steam, dry heat, and vesicating irritants, where the epithelium is destroyed there is a fibrinous exudation. In exudative laryngitis at first the membranous formation adheres closely to the surface, if life is sufficiently prolonged the membrane becomes loosened and is thrown off in pieces. Instances are reported where the membrane thrown off exhibited a cast of the larynx, trachea and bronchi. It is said that the membrane sometimes becomes gradually softened and disintegrated upon the mucous surface and is expectorated with the moist secretions. When the membrane is thrown off, if there is a tendency to resolution there

will be no new formation, otherwise the exudation may continue and reproduce the membrane.

The diagnosis between acute infiltrative and exudative laryngitis is sometimes very difficult. Loomis says:

"In very young children it is often impossible to distinguish between catarrhal laryngitis and croupous laryngitis."

In exudative laryngitis the voice is generally more affected from the first; and the disturbance occasioned by laryngeal stenosis is more pronounced and persistent, that is unremitting. When there are patches of membranous deposit visible upon the fauces, epiglottis or superior laryngeal surface, the diagnosis will be undoubted. Pieces of membrane vomited or seen in the expectorated material will confirm the diagnosis.

TREATMENT.—In the treatment of these laryngeal affections, the indications are to correct gastro intestinal derangements, relieve spasm, limit inflammation, infiltration and exudation, facilitate the removal of inflammatory products, support the patient, and if other means fail use surgical measures for the relief of laryngeal stenosis. We should not lose sight of the fact that there is spasm and inflammation in all of them; the inflammation not having progressed in subacute laryngitis beyond the stage of hyperemia, and the spasm persisting and contributing to laryngeal stenosis in the worst form of infiltrative and exudative laryngitis, ipecac as an emetic in subacute laryngitis relieves spasm; it relieves congestion by throwing the circulation to the cutaneous surface; it excites the glandular secretions along the gastro intestinal tract, and relieves the stomach of its contents of undigested food which is found in the large majority of these cases. After an emetic of ipecac a purgative is needed, and calomel is the best; it will still further correct the gastro intestinal derangement. In most cases, if the patient is well cared for the following day, this will terminate the trouble.

In the first stage of infiltrative and exudative laryngitis, ipecac and calomel are beneficial for the reasons already given. In addition, calomel is antiphlogistic by its defibrinating influence upon the blood.

There is no one remedy, according to my experience, that meets so well the indications in the treatment of infiltrative and exudative laryngitis as veratrum; as an antiphlogistic and antispasmodic veratrum is here pre-eminent, under its influence the excessive blood-flow is restrained, excessive pressure upon the vessels is relieved, and infiltration and exudation either ceases or is limited. Under its antispasmodic influence the paroxysms of dyspnea are markedly relieved; it requires a larger dose than usual to control the circulation, and it is of but little use unless this is done.

Ammonia is a useful remedy, it causes liquefaction of the fibrin in the blood, in this way limiting exudation and promoting disintegration and removal of exudate. The carbonate is the most efficient preparation, through its stimulant action upon the respiratory nerve it is antispasmodic to the respiratory organs and contributes to the relief of dyspnea; it is supporting to the nervous

and circulatory system, and by its stimulating effect upon the vasomotor center it counteracts the depressing influence of veratrum. As said of veratrum, it requires larger doses than usual, as it does of all remedies in this disease.

Oil of turpentine has an alterative effect upon the respiratory and gastro-intestinal mucous membrane, and is antispasmodic; it is sometimes very beneficial.

Loomis recommends large doses of quinine, and I think it has a beneficial action. If any anodyne is needed, Dovers powder is best.

During paroxysms of dyspnea an emetic may be needed to remove accumulated secretions, and dislodge and remove fragments of false membrane. Alum is good for this purpose if ipecac is not indicated. Bichloride of mercury has been recommended instead of calomel, and there are good reports from its use. The inhalation of steam is beneficial in exudative laryngitis if the patient is old enough to co operate in its use, but I have not been able to see much benefit derived from saturating the atmosphere of the patient's bedroom with steam; while the moist air is locally beneficial the dampness of patient's clothing and bedding which necessarily supervenes is deleterious. A great many other remedies not noticed in this paper have been recommended, of these I can not speak from personal experience. If all other means fail, tracheotomy or intubation should be performed.

I will close this paper by relating a few cases of successful treatment:

CASE 1.—Maria G., aged 3 years, though she appeared to be stout has been sick a great deal; had frequent attacks of indigestion and diarrhea. I was called to see her November 8, at 4 A.M., found her hoarse with croupy cough, dyspnea, frequent pulse and fever. Pharynx inflamed, but no exudation upon fauces; she had been taken with croupy symptoms the preceeding night.

Treatment: Emetic of ipecac, calomel, ten grs. of quinine in five grs. doses, carbonate of ammonia and turpentine at regular intervals, with counterirritants to throat. The emetic gave much relief. Although the symptoms were mild during the day, the disease progressed. At 9 P.M. the dyspnea was distressing without intermission; there was great restlessness, the patient tossing herself about in the bed. Hoarseness increased and at times the voice almost lost. Commenced giving veratrum, and carbonate of ammonia, 3 grs., every half hour, which was increased later to 4 grs. An emetic was administered occasionally when the symptoms were most urgent, which gave some relief, but the breathing continued stridulous and oppressed, with fever and restlessness; Dovers powder was given for the restlessness. Next morning the condition was about the same except paroxysms of dyspnea were not so severe; the pulse was under 100, under the influence of veratrum, and there was not so much fever; same treatment was continued. I saw the patient frequently during the day. With the mucus vomited and coughed up there were tough pieces of exudative material. By night the general condition

was improved and under the continued influence of veratrum there were no paroxysms; the breathing continued to improve during the night. November 10, the cough was loose, not croupy; all symptoms improved; veratrum discontinued and ammonia and turpentine was continued for several days. I may add that this patient was taken very violently with scarlet fever two years later, from which she died in a little over 48 hours from the beginning of the attack.

CASE 2.—E. S., aged 2 years, raised on bottle; had indigestion all his life and suffered a great deal with colic and diarrhea. Recently had urticaria to which he is subject. October 10, about 7 P.M., his father came to consult me; he said the child was taken with croupy symptoms the night before, which had been preceded by a cold for several days; the croupy symptoms had continued through the day, and the parents had given an emetic of ipecac and perhaps other remedies. I prescribed calomel, carbonate of ammonia and turpentine, without seeing the patient, and an emetic of ipecac to be given if breathing became labored. Was called to see the patient next morning early. Remedies had been properly administered, but it had not been thought necessary to give the ipecac during the night. I found the patient with croupy cough, some increase in frequency of breathing and fever, but no urgent symptoms; the calomel had operated. Prescribed veratrum, continued ammonia and turpentine, with counterirritants to the throat, and gave 10 grs. of quinine in 5 grs. doses. I saw the patient several times during the day, he growing worse; at 9 P.M. respiration was stridulous and labored. Dovers powder was given for restlessness and the other remedies continued; the veratrum to be increased until it produced its physiological effect upon the circulation. Another 10 grs. of quinine in 5 grs. doses. Up to this time, although the veratrum had been given regularly in ordinary doses, it had failed to make much impression on the pulse. During the night the veratrum was increased until its effect upon the heart was so decided that it brought the patient almost into a state of collapse; the timely use of stimulants rescued him from this condition, and he came out of the prostrating effect of the veratrum with the laryngitis very much improved, which continued until recovery was complete. I was not present when the patient was under the influence of veratrum so powerfully and protractedly. It is my opinion that the vomiting, retching and relaxation, with cardiac sedation, occasioned the removal of exudative matter and set up the process of resolution.

I have a number of times, in croupous pneumonia, seen veratrum, or retching, have a very decided physiological effect upon the circulation, seemed as it were to squelch the pathological process as it did in this case.

CASE 3.—C. D., son of Dr. P., aged 12 months, was weaned at 6 months; has been subject to indigestion all his life; is a delicate child. On Tuesday was noticed to have a cold; Wednesday there was increase of catarrhal symptoms, with croupy cough; these symp-

toms persisted and grew worse from day to day without any severe paroxysms until Saturday night. At this time Dr. N. was called to see the patient. Besides the croupy cough there was dyspnea, stridulous breathing, increased temperature and frequent pulse. Emetic of ipecac, calomel, quinine, counterirritant to throat; the emetic to be repeated if there was paroxysms of dyspnea. The emetic relieved the patient for awhile, but on Sunday the disease was progressing, and during the day the paroxysms were more severe and dyspnea continuous.

Sunday at 4 P.M., I saw the patient with Dr. Nowlin. Breathing was labored, pulse frequent, and the patient very restless; throat inflamed, but no exudation on fauces. The pathological condition was thought to be either fibrinous exudation or considerable submucous infiltration and swelling. Treatment: Calomel to keep the bowels open; ammonia every two hours; veratrum sufficient to control the circulation; sixteen grs. quinine in twenty-four hours; Dovers powder for restlessness when needed, and an emetic of alum and honey when necessary for paroxysms of dyspnea. From the time the circulation was fully impressed with veratrum, at 2 o'clock Sunday night, the disease ceased to progress, and the paroxysms were less frequent or severe. The patient remained about the same for the next twenty-four hours, the same treatment being continued. The veratrum produced emesis several times, and an emetic of alum was given Monday night. Tuesday morning the patient was about the same; veratrum, and ammonia in increased dose, were continued. Improvement commenced during the day, and the patient had no paroxysms; same treatment continued through the night. In a paroxysm during Tuesday night and emetic of alum was given, the vomiting resulted in removing a considerable quantity of mucus with pieces of exudative material, which gave great relief. Improvement continued until recovery was complete. Veratrum was discontinued but ammonia was given for several days.

Heart Pain.—Taking consecutively a hundred cases of coarse and decided forms of disease of the heart which have been under his own immediate care, A. Ernest Sansom, M.D., F.R.C.P., Lond., "The Diagnosis of Diseases of the Heart and Thoracic Aorta," has found that in just half the number there was no complaint whatever of pain in any part of the chest (*Med. Rec.*). Seventeen referred the pain generally to the front of the chest; fifteen to the back (especially between the shoulders); twelve suffered pain at the epigastrium; eleven suffered pains on the left side of the chest; while two referred their suffering to the right side. Those who localized the pains to the exact area of the heart were but eight, and of these two complained of it only after exertion. One described it as a sense of extreme soreness at the apex, while in another it partook of the character of neuralgia about the left breast. Only eight per cent complained of pain directly referred to the situation of the organ diseased.

MEDICAL REVIEW.

EDITORIALS

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PUBLISHED UNDER THE AUSPICES OF THE
MEDICAL REVIEW ASSOCIATION

BY O. H. DREYER.

YEARLY SUBSCRIPTION, \$3.50. SINGLE COPIES, 10 Cents.

TO CONTRIBUTORS AND CORRESPONDENTS.

All letters whether intended for publication or not must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of the meetings of their respective societies, and of officers elected.

Members of the profession who send us information of matters of general interest to our readers will be considered as doing them and us a favor, and we shall take pleasure in inserting the substance of such communications.

Communications, Medical Books for review, and all letters containing business communications or referring to the publication, subscription, or advertising department of the REVIEW, must be addressed to O. H. DREYER, Publisher 112 N. 4th Street, St. Louis.

Entered at the St. Louis Postoffice as Second-Class Matter.

The Publication of the Proceedings of the Southern Illinois Medical Association.

We are much pleased to announce that at the meeting of the Southern Illinois Medical Association the REVIEW has been elected to officially publish the proceedings of that Society. Although the REVIEW receives an abundant supply of original articles as well as other original material from various other valuable and well-known sources, we believe that the additional publication of the proceedings of the Southern Illinois Medical Association will be welcomed by our readers.

Judging from the quality and source of the articles which we have already received the papers read at the annual meeting of the Association are of a most practical and instructive character and the subjects not confined to circumscribed and limited specialties. They are, therefore, of much interest to general practitioners.

indications appear to be that the practitioners of the country are becoming more and more interested in medical meetings, as well as in the

reform of medical education, and are displaying a commendable and increased activity in such gatherings.

This is a most encouraging phenomenon; for a liberal expression of opinions, experiences and views, especially by general practitioners, is a feature of medical meetings which should be particularly encouraged. We predict, by the way, that with more extended courses of study the physicians of the future will pay more attention to general practice and will be less eager to adopt a premature specialty. The motto of the future will be, more general practitioners and thoroughly trained, but fewer specialists. The initiative in this reform will principally depend upon the good judgment of the practitioners in smaller towns and the country and upon a thorough education in the various branches of medicine.

We realize in the election of the MEDICAL REVIEW for the official publication of the proceedings of the Southern Illinois Medical Association the fact that the efforts and enterprise of this journal are becoming recognized and appreciated in more and more extended circles, that its range of usefulness, influence and popularity as a vehicle for the distribution of medical knowledge is steadily growing, and that its friends and patrons are constantly increasing. To enhance its usefulness as an organ for the general practitioner will continue to be our constant endeavor and pride. The success so far obtained bids fair to outrival our expectations and appears to promise a bright and most successful future for the MEDICAL REVIEW.

Czerny's Criticism of Castration for Hypertrophy of the Prostate Gland.

The favorable therapeutic affects of castration in hypertrophy of the prostate gland has been discussed in medical societies and medical journals and the general impression seems to be that in most cases of hypertrophy of the prostate gland a good result may be anticipated. It appears, however, that the exact pathological conditions in hypertrophied prostates which may particularly indicate the operation and such conditions as may hold out little or no hope for good results have not been sufficiently pointed out, in other words, the indications and contraindications have not been sufficiently studied and defined. Hence the good results in some cases and the absence of any improvement in others. The operation has been received favorably by a number of surgeons, but has been severely criticised by Bottini and very recently it has received a serious blow at the hands of no less an authority than Prof. Czerny, of Heidelberg, whose want of faith in the operation is characterized by the fact that only three cases have been operated in his clinic.

One of the cases, in which there existed a complication of diseases—pyelo-nephritis, chronic pneumonia, etc.—died, and in the other two not the slightest improvement of symptoms took place, nor was the pro-

tate gland reduced in size. As a result of this utter failure Czerny considered it his duty to warn the profession against too great a readiness of recommending the operation to patients and in an article published in the *Deutsche Medizinische Wochenschrift*, No. 16, 1896, he gives his reasons for his sceptical attitude and his general views on the subject. He introduces his Philip by making the poor results of all therapeutic measures in hypertrophy of the prostate to a large extent responsible for the present popularity of castration and by suggesting the probability that the simplicity of the operation, which may be performed by any "back-woods surgeon" may have much to do with this popularity. He calls attention to the fact that for a time castration for myomata of the uterus was a fashionable operation, while after an experience of twenty years, most gynecologists resort to it only in cases where myomectomy can not be performed. In a comparison between the probable chances of success in castration for hypertrophied prostate gland and for myomata of the uterus the latter would theoretically offer better chances for success, in the author's estimation, than virile castration, because the circulatory area of the internal spermatic artery bears a much closer relation to that of the uterine artery than the circulation of the artery of the vas deferens to the prostatic circulation. And while in castration of the female a pronounced influence upon myomatous tumors is attributed to the ligation of bloodvessels, the influence of the operation in man must be explained by the action of nervous influences. The author encourages, however, renewed anatomic investigation of the respective circulatory areas by isolated injection of the internal and external spermatic arteries and the artery of the vas deferens.

The "audacious transference" of the results of castration in uterine myomata upon the treatment of hypertrophy of the prostate gland "has surprised myself," says Czerny, "as well as most surgeons that have followed up the history of the operation for myomata. Are these results in uterine myomata so good that they could be utilized in devising a treatment for hypertrophy of the prostate gland even if the analogy between uterus and prostate were a complete one?"

The greatest difficulty in estimating the influence of castration upon the prostate gland lies, as the author very pertinently points out, in the fact that the size of the prostate gland can during life only be estimated and not measured and the results of the operation can only be properly appreciated after a sufficient number of post-mortem investigations. Experiences in the castration of young individuals and malformation of the testicles can not be advanced in favor of the operation. They do not prove anything, in the author's opinion, with regard to the results obtained by castration in more advanced years.

It must be admitted that, although the many reports of amelioration of cure of symptoms after castration of the prostate gland are very encouraging, the time of observation has been too short and, particularly, the

anatomic investigations are too defective to justify undue enthusiasm over the new surgical acquisition of this—just now—fashionable operation. It must also be conceded that the operation of virile castration, although exceedingly simple, is by no means an indifferent procedure in those cases where it is indicated. Many of the patients are afflicted with other diseases, degenerative changes of old age, nephritis, etc. It would appear that the risk connected with an operation upon very old individuals and particularly in cases of nephritis would contraindicate the operation unless that by Schleich's infiltration method the dangers of inhalation-anesthesia be eliminated. *We believe, therefore, that Schleich's method of anesthesia finds one of its foremost indications in castration for hypertrophied prostate.*

Czerny's arguments are certainly logical, although in some respects only of a theoretical nature. The percentage of deaths following the operation is large. According to Bruns, out of 148 cases 23 died, although in some instances three to eight weeks after the operation and after the urinary symptoms had been ameliorated. Czerny suggests that the successes of the operation are probably much rarer than present statistics would indicate, because it is in this instance particularly unpleasant to publish unsuccessful results, "for the operation can be justified by its success only."

It is undoubtedly true that the exact conditions indicating the operation should be more definitely investigated and pointed out; for the procedure is, on account of the age of the patients, under no circumstances an indifferent one as to injurious effects upon an individual weakened by the more or less pronounced degenerations accompanying old age. In Czerny's opinion cases with recent urinary retention with pronounced venous congestion accompanying uniform hypertrophy of the organ would indicate the operation if other means fail. If in this condition the same result may be obtained by the resection of the spermatic cord, the latter operation is to be preferred, because the operation is of less consequence and there remains no deformity.

The views of a surgeon with Czerny's experience and name are, of course, entitled to serious consideration and in spite of the list of favorable results a doubt will always remain in the minds of those who have read his paper and who have no personal experience in the operation, whether the successes attained by the operation are of a sufficiently unequivocal nature to justify the operation in most cases. It can not be doubted that Czerny is fully aware of the responsibility resting upon his attempt of staying the tide of indiscriminate castrations for hypertrophied prostate glands; but let us hope that Czerny's pessimism, with reference to the alleged advantages which castration offers in hypertrophied prostates, may be successfully contradicted by additional convincing therapeutic results or exact anatomic investigations.

With the present information on the subject it appears that, although in many cases the symptoms in hypertrophy of the prostate gland are often much im-

proved after castration, a promise by the physician to that effect is not justified; for the situation would be decidedly embarrassing when the patient has been subjected to a serious operation and the promised improvement does not, as in Czerny's cases, take place. If with an open statement of the possibilities and probabilities the patient submits to the operation, then, of course, the procedure seems justified after due consideration of possible contraindications.

Should the presently fashionable operation not be altogether abandoned for prostatectomy, or, in certain cases, for Bottini's galvanocautic incision, Schleich's method would certainly extend the usefulness of the operation to that large number of cases in which inhalation-anesthesia would be absolutely contraindicated and we are somewhat surprised that in Czerny's lengthy discussion of the subject and his allusion to the severity of the operation on account of the advanced age of the patients, he leaves the advantages which Schleich's local anesthesia would undoubtedly offer in this operation, entirely untouched, a phenomenon which is but another confirmation of the hackneyed saying that a prophet is not without honor save in his own country.

Southern Illinois Medical Association.

The twenty-second annual session of the Southern Illinois Medical Association was called to order in East St. Louis Thursday, May 14, and although the weather had been very unfavorable, the attendance was all that could be expected. The delegations of physicians were met at the Relay Depot by members of the East St. Louis Society, and escorted to the different hotels. A very large number of ladies and gentlemen took advantage of the low rates offered by the railway companies, and accompanied the doctors on the trip.

About 10 A. M. the delegations were escorted to the hall, where Dr. D. L. Temple, pastor of the Summit Avenue Methodist Episcopal Church, offered an invocation. Dr. Wilhelmj, of the local Society, stepped forward to welcome the visitors on behalf of his Society. In concluding he introduced Mayor Henry F. Bader, who extended a hearty welcome to the physicians on behalf of the whole community.

President McAnally called upon Dr. A. Wetmore, of Waterloo, to respond in the name of the Southern Illinois Medical Association. The Doctor said that he and his Society reciprocated the feelings of friendship expressed by the Mayor, and felt certain that each visitor would carry home with him fond recollections of East St. Louis' hospitality. At the conclusion of Dr. Wetmore's remarks, Dr. McAnally announced that the regular program would be again taken up. A large number of new members were enrolled by the Secretary, after which the doctors indulged in a general discussion of scientific subjects. At 12 o'clock the doctors were taken about the city in carriages, and after luncheon permitted to reassemble. The major portion of the afternoon was devoted to a lengthy paper read by Dr.

E. P. Cook, of Mendota, who represented the State Association at the meeting. His subject was "The Duty of the Medical Profession in Relation to Public Health." He advocated a more stringent regulation of the sale of meats, vegetables and milk, and held that many diseases were propagated through these channels.

He favored a more stringent regulation in cities, and hoped that the next Legislature would place more funds in the hands of the State Board of Health for enforcing the regulations.

The question of water in the cities was touched upon, and he hoped that the local physicians of every locality would assist in carrying out sanitary measures where there were no city regulations or appropriations.

He was also in favor of the establishment of a Board for the Supervision of Antitoxin and kindred remedies, which, although disastrous to individual interest, would prove highly beneficial to the public, as it would place none but the genuine article on the market.

Many other interesting papers were read during the two days of the meeting, among them a paper by Dr. H. H. Mudd, of St. Louis, on "The Clinical Significance of the X Rays."

Drs. Fairbrother, Wilhelmj, Wiggins and others discussed the subject of "Repair of Bone," while Dr. Kohl, DeHaan, Wiggins, McIntyre and others talked at length on "Gynecological Clinic."

At the end of the regular program a vote of thanks was tendered the citizens of East St. Louis, the doctors, and particularly the Arrangement Committee—C. F. Wilhelmj, John Staak, A. J. McGoffigan, W. H. McLean and Eugene Thompson—for the hearty welcome and excellent treatment of the visitors.

On the evening of the first day of the convention the visiting members, as well as a large number of their friends, were royally entertained at a banquet given in their honor by the local medical fraternity. The belles and beaux, as well as the society leaders of East St. Louis, were present in force. Dr. H. C. Fairbrother, of East St. Louis, was the toast master, and the following toast and responses were given:

"City of East St. Louis," Hon. H. F. Bader, Mayor.

"The Country Doctor," Dr. J. H. Norris, Metropolis.

"State of Illinois," Hon. J. N. Perrin, Lebanon.

"The Doctor as a Minute Man," Dr. O. C. Murphysboro.

"The Ladies," Dr. J. H. Mitchell, Moultrie.

"The Professional Man," Hon. W. East St. Louis.

"Influence of the Physician on His Patients," Dr. Lucinda H. Corr, Carlinville.

"Looking Forward," Dr. W.

Dr. J. I. Hale, of Alton.
Dr. C. F. Wilhelmj, of
President. All the
last year, viz.: Seco
shall, Sparta; Secret:

ory; Assistant Secretary, Dr. H. L. Gault, Sparta; Treasurer, Dr. H. C. Mitchell, Carbondale.

The local Committee of Arrangements consisted of Drs. W. H. McLean, J. Stack, E. Thompson, A. J. McGoffigan, C. F. Wilhelmj, M. S. Carr, O. C. Bates, C. L. Moeller, J. B. W. Dwyer, M. R. Boyle, J. L. Wiggins.

Missouri State Medical Association.

The thirty-ninth annual session of the Medical Association of the State of Missouri began at the Court House, Sedalia, at 10 o'clock May 19, with Dr. C. Lester Hall, of Kansas City, President, in the chair, and about three hundred delegates present, from all parts of the State.

The hall was beautifully decorated with flags and bunting and vases of flowers stood upon the President's and Secretary's desks. A large streamer of bunting decorated the east wall, and flags were displayed from every point and angle of this large room, which looked cool and inviting.

The Association numbers some of the finest looking men in the State, who seem to enjoy their visit to Sedalia and are commenting favorably upon the appearance of the proud little city.

The Convention was called to order at 10 A. M. by President Hall. He introduced Rev. J. F. Seibert, pastor of the Trinity Lutheran Church, who made a fervent prayer for wisdom in the deliberations of the Society, and light upon their pathway through life.

The address of welcome was delivered by Judge W. S. Shirk, Mayor of Sedalia, who, as upon all similar occasions heretofore, did well, welcoming the members to the city, and guaranteeing them all the pleasure imaginable.

Dr. W. B. Outten, of St. Louis, Chief Surgeon of the Missouri Pacific Hospital system, responded on behalf of the Society, making a splendid address.

President Hall then appointed committees on credentials and on scientific communications, and Dr. J. M. Langsdale, of Kansas City, was introduced, and read a paper on "Serum Therapy."

St. Louis was selected as the place for holding the next annual meeting, in May, 1897. By an arrangement with the Illinois State Medical Association, the latter will meet in East St. Louis on the same date, and the two Associations will hold two joint sessions, one in St. Louis and the other in East St. Louis. On the third day the two Associations will make an excursion up the Mississippi to some point in Iowa, where a third joint session will be held.

The officers elect for the ensuing year are:

President—Dr. John H. Duncan, St. Louis.

First Vice-President—Dr. C. H. Walker, St. Joseph.

Second Vice President—Dr. J. M. Langsdale, Kansas City.

Third Vice President—Dr. J. J. Russell, California.

Fourth Vice-President—Dr. Thomas Chowning, Hannibal.

Fifth Vice President—Dr. J. H. Britts, Clinton.

Recording Secretary—Dr. J. N. Jackson, Kansas City.

Assistant Recording Secretary—Dr. Thomas Hall, Marshall.

Corresponding Secretary—Dr. A. F. Dresel, Sedalia.

Treasurer—Dr. W. E. Evans, Booneville.

Illinois State Medical Association.

The Illinois State Medical Association held its annual meeting at Ottawa, Ill., on the same dates as the Missouri State Association, at Sedalia, Mo., May 19, 20 and 21. The event was a most enjoyable one, some of the most distinguished physicians of the State taking part in the meeting. The next meeting will be held in East St. Louis, in May, 1897.

The officers elect for the ensuing year are: President, A. C. Corr, Carlinville; First Vice President, J. M. Carter, Waukegan; Second Vice-President, T. J. Pitner, Jacksonville; Treasurer, G. N. Kreider, Springfield; Secretary, John B. Hamilton, Chicago.

Kansas State Medical Society.

The annual meeting of the Kansas State Medical Society closed May 15. Papers were presented by the leading physicians of the State on a variety of subjects connected with medicine and surgery, and action was taken for securing the passage of needed laws by the next Legislature. Officers were elected and committees chosen as follows: President, Dr. S. M. Daily, Bellot; First Vice President, Dr. H. Z. Gill, Pittsburg; Second Vice-President, Dr. Melville Collins, Oxford; Recording Secretary, Dr. G. A. Walla, Topeka; Corresponding Secretary, Dr. W. E. McVey, Topeka; Treasurer, Dr. L. Reynolds, Horton; Judicial Council, Dr. W. E. Barker, Chanute; Dr. D. F. Longenecker, Emporia; Dr. C. A. Maguire, Topeka; Dr. B. F. Morgan, Riley; Dr. W. H. Mathis, Waverly; Board of Censors, Chairman, O. J. Furst, Peabody; Dr. George M. Gray, Kansas City, Kan.; Dr. P. Daugherty, Junction City; Dr. D. F. Rogers, Ottawa; Dr. D. C. Tyler, Clifton; Necrology, Dr. J. W. Porter, Litchfield; Dr. O. J. Wetherby, Hutchinson; Dr. George W. Hogeboom, Topeka.

Rolla District Medical Society.

The forty-third semi-annual meeting of the Rolla District Medical Society will begin at Sullivan, Mo., at 11 o'clock A. M., Thursday, May 28, 1896. Walter S. Cox, M.D., is the President; and R. L. Johnson, M.D., is the Secretary. The meeting promises to be of much interest.

Professor Brouardel, who occupies the Chair of Medical Jurisprudence in the Paris Medical Faculty, has been elected Dean of the Faculty for a period of three years.

CORRESPONDENCE

Erysipelas.

Editor MEDICAL REVIEW.—Noting your article in MEDICAL REVIEW, May 2, 1896, regarding an unusual case of erysipelas, and your views in regard to streptococcus erysipelatis, I will give you an outline of a somewhat similar case that is just passing through my hands.

Patient had been under another physician's observation and treatment for a primary erysipelas starting on the nose extending to skin and scalp around ear and neck. The treatment had been for erysipelas but a hard indurated condition of neck was left. Patient suffering intensely from headache and nervousness for six weeks with impossibility of moving head.

He consulted me and on examination I surmised a probable pus cavity some place, as he was beginning to be troubled with difficult deglutition and impossibility of free movement of jaws.

I made a free, careful incision along the posterior edge of s. c. mastoid finding a large pus pocket containing probably one and one-half or two ounces of pus fully three inches from the surface. Carried out usual drainage and packing treatment with relief from subjective and objective symptoms. I would judge that the condition was a suppurative form of erysipelas.

Nevada City, Cal.

ALFRED H. TISKELL, M.D.

A Report of Four Cases of Bowel Obstruction.

Editor MEDICAL REVIEW.—Miss E., while out horse-back riding, was thrown violently from her horse. She complained of severe pain in left hypogastric region, which gradually subsided in about seven days, until six weeks later when she began to complain of pains in the same place again, but thinking it would not amount to anything she went visiting six miles from home. The pain continued to grow worse until next day when Dr. H. was called, and giving morphine and atropine hypodermically, had her sent home immediately. I was absent when she arrived home and two other physicians were called in and gave appropriate treatment. I saw her twelve hours later. Her bowels had not moved for several days and she was vomiting almost constantly, with all symptoms of complete obstruction somewhere about the ileo-cecal valve. When I saw her she was almost pulseless and died one hour later.

The second case was an old lady eighty years of age. When I saw her she was complaining of intense pain in umbilical region and occasional vomiting. Her bowels had not moved for about seven days. By palpation over her abdomen, I discovered that the ascending and

transverse colon was impacted with hardened fecal matter. I gave morphine and atropine hypodermically to relieve pain and vomiting, ordered copious enemas of warm water to be given at frequent intervals while she was in the knee and chest position. I also prescribed tincture nux vomica to be given in three-drop doses every four hours. I was agreeably surprised to find her completely relieved in twelve hours excepting weakness from which she recovered in a few days.

In the third case I was called by two other physicians to operate on Joe E., aged 21, who had been suffering from obstruction of the bowel from strangulated inguinal hernia for about thirty six hours. The doctor had made repeated efforts to reduce the hernia but without success. When I arrived we prepared immediately for an operation, anesthetized him and made another effort to reduce the hernia but failed. I made the usual operation for the cure of inguinal hernia; found the gut in good condition. He made a complete recovery in due time and a complete cure of hernia.

In the fourth case I was called in to assist Dr. H. in an operation on Mr. T., aged 40, for obstruction of bowels of twelve days' standing, supposed to be from same cause as case three. The doctor had operated for the strangulated inguinal hernia a short time ago but the operation failed to relieve the obstruction and the patient's condition was becoming critical. When myself and several other physicians were called in he was vomiting fecal matter frequently with almost constant hiccough. We anesthetized him and made an incision through the linea alba from the umbilicus to the pubis. We found the obstruction was caused by a knuckle of of the lower part of ileum, being bound down to the internal inguinal ring by an inflammatory process which had also caused considerable constriction in that portion of bowel, but when the adhesions were broken up the obstructions were relieved and his bowels moved freely in six hours after operation was completed. This is fourth day since operation and he is still doing well.

In the first case it would have been proper to have operated on first day but it would have been impossible to have gotten the consent of her parents.

Chapel Hill, Tenn.

GARRETT WHITE, M.D.

Fraenkel's Pneumococcus.—Bernabeo (*Rif. Med.*, Jan., '96), by a modification of Foa's method, has succeeded in keeping alive and virulent for over a year Fraenkel's pneumococcus, and also the streptococcus of Fehleisen (*Brit. Med. Jour.*). The method consists in receiving the infected blood into small glass tubes 5 mm. diameter and 20 cm. long, so that the blood completely fills the tube from the narrow pointed extremity up to the constricted part at the other end. The tube is then sealed by heat, and without any further treatment is kept away from the light at an ordinary temperature. Tubes so filled were found after a year to contain the above micro-organisms in all their pristine vitality and virulence.

BOOK : REVIEWS

Books reviewed in this column may be obtained, post-paid, by addressing the publisher of this journal, and remitting the quoted price.

Don'ts for Consumptives, or, The Scientific Management of Pulmonary Tuberculosis.

How the Pulmonary Invalid May Make and Maintain a Modern Sanitarium of His Home, With Additional Chapters of How Every Consumptive Person May Apply the Forces of Nature to Assist and Hasten Recovery,—and, also,—How the Defects of Heredity May be Best Overcome. By CHARLES WILSON INGRAHAM, M.D., Binghampton, N. Y. February, 1896. Binghampton: *The Call*.

In this instructive little work the author treats the general management of consumption in a popular and lucid style, leaving the medical treatment unconsidered. As the book is intended for patients as well as physicians particular attention is paid to those details which assist the physician in his efforts of teaching the patient the nature of his disease, thereby expecting to secure for the physician, in his therapeutic endeavors, a more intelligent assistance and co-operation on the part of the patient. The book is written in a clear and comprehensible style and answers well the purpose for which it is intended.

TRANSLATIONS.

BY EDGAR THOMPSON, M.D.

Cause and Treatment of Hemoglobinuria.

—M. Plicque in a recent number of *La Presse Medicale*, says that hemoglobinuria is of much greater value than a simple symptomatic curiosity. To a scientific observer the red tint of the urine is a stimulus to more acute observation and it may lead him, at an early and favorable hour, to the discovery of some medicinal intoxication: it may be phenic acid, iodine, potassium chlorate, naphthol, quinine, etc. In certain infections: erysipelas, scarlatina, typhoid fever, typhus, etc., hemoglobinuria constitutes an element of prognostic importance. Icterus is often a forerunner of hemoglobinuria in the infectious diseases and the prognosis is always grave when both are associated.

The most interesting and important form is paroxysmal hemoglobinuria, and if the blood-coloring matter is found in the urine with no appreciable immediate cause it may be due to the following conditions: nephritis, syphilis, malaria, calculi (especially oxalic calculi), alcoholism, neurasthenia, anemia and rheumatism.

Hemoglobinuria has an important relation to nephritis. The tendency to renal congestion can be a precursory symptom or it may supervene in the course of an acute or chronic nephritis. It may, finally, be the ultimate and closing symptom.

This important role played by the renal congestion with the possibility of a consecutive nephritis, and the certainty of an aggravation of an existing disease imposes a speedy treatment—strict confinement in bed, absolute milk diet as long as albumen is present in the urine, and blisters over the lumbar region.

Syphilis seems to be the most frequent cause of hemoglobinuria. Many observers have observed its great frequency in inherited syphilis in the infant. The treatment must be very cautious because mercury is far from being inoffensive to the kidneys under these circumstances. The treatment, however, must be active to be of any avail and M. Robin counsels daily hypodermic injections of biniodide of mercury in sterilized oil, and on the sixth day to commence the administration of potassium iodide—60 grains daily at first and increasing to 180. The treatment must be steadily maintained until all traces of albumen in the urine have ceased.

The hemoglobinuria of malaria is always acute, sometimes benign but generally pernicious and fulminant. The treatment is simply the subcutaneous use of quinine. If the hemoglobinuria persists after the quinine is given it is due to a nephritis set up by the congestion and toxins, and the patient may tardily succumb to an attack of uremia.

The observation of hemoglobinuria in cases of oxalic calculi is very important from a dietetic point of view. The treatment of the condition consists in a regulation of the diet. The hemoglobinuria may occur where no concretion is apparent but where an excess of the proper salts are excreted in solution.

The proper treatment of this condition is the prohibition of oxalic aliments (sorrel, tomatoes, rhubarb, etc.); all foods rich in extractives (pork, game, preserves, fermented foods); all substances which are irritating to the kidneys (asparagus, spices, tea, coffee, and beer).

Arsenic and sodium benzoate have been used with seeming good alternative effects by Dr. Robin. Each of these remedies are given during five days followed by small doses of antipyrin and sodium bicarbonate.

Repeated attacks of hemoglobinuria can be a cause of anemia and the hemoglobinuria may be due to the anemia. The condition is frequently associated with nephritis and syphilis.

The indications for the treatment of alcoholic and neurasthenic hemoglobinuria are plain. Strychnine in small doses will effect a cure in most cases.

If rheumatism is the underlying cause sodium salicylate will relieve all symptoms.

The author says when the cause is obscure a thorough trial of anti syphilitic treatment will, in a great number of cases, give good results.

Sea-Sickness.—M. Le Grix in a communication to the French Association for the Advancement of Sciences divides the treatment of sea-sickness into preventive, curative, fixative and hygienic (*L'Union Medicale*).

The preventive treatment consists in giving granules of strychnine (arseniate, sulphate or hyposulphite) every quarter of an hour for an hour before starting on the voyage. Each granule contains $\frac{1}{4}$ milligramme.

The curative treatment consists in giving, on the least feeling of malaise, nausea, vertigo, etc., the following doses every quarter of an hour: strychnine—arseniate, sulphate or hyposulphite, one granule of $\frac{1}{4}$ milligramme; hyoscyamine, $\frac{1}{4}$ milligramme; morphine, iodohydrate or bromohydrate 1 milligramme. All are to be taken every quarter hour until a sedative effect is obtained and if the sea is not especially rough the results will be most happy.

The fixative treatment is carried out by giving two centigrams of podophyllin very evening and the above combined dose of strychnine, hyoscyamine and morphine three times daily for three or four days.

The hygienic treatment consists in maintaining the body unconstrained, lying down at first, and the avoidance of all foods which common sense would show to be badly digested.

27 were slaughtered, and 26 were found to be tuberculous. In the State herd at Kankakee Insane Asylum, 188 cattle were tested and 48 reacted. Of this number 37 were slaughtered last Friday and all were found to be tuberculous. The specimens presented to-night were obtained from these animals.

One of the peculiar features is that these tuberculous cattle are fat and perfectly healthy looking.

DR. AMAND RAVOLD said the subject of tuberculosis in cattle is an exceedingly interesting one, and should be thoroughly discussed. We know that work is being done abroad in this line, but we are apt to overlook what is being done here. The specimens presented are exceedingly beautiful ones, and show that tuberculosis had existed throughout the whole animal.

When the matter of milk inspection and supervision first began in Massachusetts, and when they first began to kill diseased cattle, the owner of one dairy, which supplied milk to Boston, asked to be allowed to keep his cattle, agreeing to use the milk only to feed the hogs that he had on his farm. As a result every one of the hogs so fed became tuberculous, showing the infectiousness of milk from tuberculous cows. We all know that tuberculosis is very contagious, and this is particularly so with animals that are kept in confinement. Thus, lions, tigers and monkeys, which do not have tuberculosis in nature, are subject to the disease if confined. Stall fed cattle are more susceptible, as they do not get enough pure air and sunlight, the latter of which alone kills the tubercle bacilli.

The question of feeding milk to infants and children is a very important one, and its importance is emphasized by reports from foundling asylums, such as the one in New York, where the children were often found to be affected with tuberculosis of the mesentery and die in consequence of the infection. The feeding of milk to children is of particular importance in large cities, where we have no means of knowing definitely from where the milk supply is derived. All such milk should be sterilized, and this may be done according to one of two methods. According to the one method the milk is subjected to 212° F. for at least an hour under slight atmospheric pressure. This process kills all the micro organisms in the milk, even those forming spores, but robs the milk of some of its nutritive and digestive properties. The other method, the Pasteurizing of milk, is a process in which the pathogenic micro organisms are supposed to be destroyed. According to this method the milk is placed in closed vessels, which are placed in water brought up to the boiling point and allowed to remain about twenty minutes. This kills all micro organisms except those forming spores.

DR. W. B. DORSETT called attention to an effect of milk sterilization, which he had an opportunity of seeing lately, and of which Starr mentions 47 cases in his last "Year Book of Medicine and Surgery," and in his last book on "Diseases of Children." He refers to scurvy due to sterilized milk. In speaker's case the child had been practically raised on sterilized milk and

MEDICAL SOCIETIES

PROCEEDINGS OF THE ST. LOUIS MEDICAL SOCIETY.

W. H. FUCHS, M.D., EDITOR.

Stated meeting, Saturday evening, April 4, 1896; the President, W. G. MOORE, M.D., in the chair.

DR. JAMES MOORES BALL read the report of "A Case of Gunshot Wound, Blindness Resulting in Both Eyes From One Bullet."

DR. HOWARD CARTER presented some

Post-Mortem Specimens of Viscera Taken From Tuberculous Cattle.

It was through the courtesy of Dr. W. R. Thrombower, he said, that he was able to present the specimens, and they had been obtained from the State herd located at Kankakee, Ill., at the Insane Asylum.

The Illinois State Veterinarian, Dr. W. R. Thrombower, has been subjecting cattle in various parts of the State to the tuberculin test. In this test all cattle supposed to be tuberculous are injected with tuberculin and if a rise of temperature of two or more degrees occurs the animal is condemned. Thus in the State herd at Elgin, a few weeks ago, of 75 animals subjected to the test, 27 reacted definitely and 8 were doubtful. The

was fat and plump and apparently in good health. It suddenly developed a very sore mouth and would scream when taken up. A hemorrhagic condition was also present, the body being covered with purpuric spots, so that ergot and iron seemed to be indicated. The pain seemed to be so excessive that an orthopedic surgeon was called in consultation to determine whether or not the child had hip-joint disease or rickets. Probably no one would have made a diagnosis at once, but speaker happened to read about this milk infection. The sterilized milk was discontinued and plain cow's milk and orange juice substituted, and the child got rapidly well.

It is a question whether it is better to sterilize the milk and give children rickets, or to give the milk unsterilized and assume the risk of the development of tuberculosis.

DR. LUDWIG BREMER said if anything had been demonstrated to a mathematical certainty in experimental pathological medicine and anatomy, it is the fact that tuberculin is a sure test of masked or unrecognized tuberculosis in cattle. If Koch had done no other work than to discover this tuberculin he would be immortalized for all ages to come. It is one of the greatest boons that has been conferred upon humanity, and if the power of the boards of health is increased, which every well-thinking citizen certainly devoutly wishes for, the time will come when no milk that comes from cattle that have not been satisfactorily tested will be sold in this country.

Although the "boom" that was commenced in 1890, following the discovery by Koch of his alleged cure for tuberculosis, collapsed suddenly, speaker was inclined to regard this collapse as not entirely deserved, and that after all there is something in tuberculin that time will demonstrate. At any rate, while in Germany last year, he was told by men in a position to know, that Koch is still assiduously and vigorously pursuing his investigations of tuberculin, and that he still has hopes of demonstrating to the world that tuberculin is a specific remedy in some forms—not in all—of tuberculosis.

Speaker hoped that Dr. Carter would continue to study this subject, and that he would make still further reports to this Society.

DR. CARTER said that in this Eastern Illinois Hospital, which is the largest insane asylum in the State, they have an ideal system of handling milk. Before any milk is used at this Institution it is subjected to the action of the separator, and all foreign matter is removed by centrifugal force. The milk is then re-mixed and Pasteurized, and the results are most satisfactory. This Hospital is ideal in every particular.

All the milk dispensed in this city could be treated in a similar manner and at small cost when treated in quantities. It should be done at the city's expense.

Speaker is familiar with the cases referred to by Dr. Ravold, and there are others of a like character. Sims Woodhead reports autopsies in 127 cases of tuberculosis in children, 100 of whom had tuberculosis of the intestinal tract and mesenteric glands.

DR. W. H. MAYFIELD presented specimens of

Cystic Degeneration of the Fallopian Tubes.

The specimens were obtained by laparotomy from a woman 34 years of age, mother of three children, who had suffered intensely for five months. The tubes were distended with fluid and the fimbriae had become obliterated, and the whole mass, together with the uterus, was firmly anchored to the pelvic cavity by adhesions. The specimens are of especial interest in that drainage by means of a tube through the uterus had been attempted, but remained without success. On account of the intense suffering removal was considered imperative as it was the only means of providing permanent relief.

DR. W. B. DORSETT said that the necessity of the operation is apparent from the history of the patient and the condition of the tubes. Drainage of the tubes through the uterus failed on account of the situation of the fluid. If it had been closer to the uterine end drainage might have been successful.

The subject of drainage after abdominal section is one which deserves careful consideration, as each case is a study in itself. It is of particular interest in these simple inflammatory conditions, where the tubes and ovaries are simply tied off and everything looks clean, constituting what we might call an ideal operation. The complications sometimes resulting from the insertion of a drainage tube must be taken into consideration. Ventral hernia may be traced to this cause, and has occurred a number of times in speaker's practice. Drainage through the vagina seems to be gaining in favor, although considered very uncertain only a few years ago.

The specimens presented suggested a case to speaker which had occurred during the past week in his own practice. The patient had had a miscarriage and the attending physician had been unable to get away all of the retained placental tissue, although he had curetted. Speaker placed the patient under the influence of chloroform, dilated the uterus and removed the mass of necrotic placental tissue. Upon vaginal examination he found a mass on the left side coming well up against the abdominal wall. An abdominal section was made immediately, and the left tube and ovary were found in an acute inflammatory state, which seemed to have developed in a chronically inflamed appendage.

In attempting to tie off with a ligature the tissue of the tube was found to be friable, so that the ligature would cut through. Although there was no pus in the tube or ovary the condition was suspicious and one which might lead to an inflammatory process if drainage were not established. The whole mass was delivered, the broad ligament closed by whip stitching, and the stump anchored to the abdominal wall by several deep stitches, and drainage established directly. The result was a good one; the temperature, which had ranged

from 102° to 105° F., fell gradually to normal in the morning and 99° in the evening.

DR. C. C. MORRIS had given the subject of drainage after abdominal operations considerable attention in his clinical work, and had made a comparative study of cases drained and those not drained. In 17 cases observed it was found that all symptoms are more pronounced in those cases in which drainage was omitted, and especially is this true of nausea.

Two patients operated upon on the same day at the Baptist Hospital afforded a favorable opportunity for a comparative study. Both were operated upon last Saturday afternoon, both had trouble with the right ovary and tube, both were placed in the same room side by side and were watched by the same nurse; but in the case operated upon by Dr. Briggs gauze drainage had been inserted, whilst in speaker's case drainage had been omitted, although the tube was ruptured in removing it and no water was used to cleanse the cavity. Dry sponging was the only means used in cleansing the cavity. Both cases did well, but speaker's patient had pronounced nausea lasting two days. Of course, the question arises, is the nausea due to the chloroform or to the omission of drainage? Speaker's experience would lead him to accept the latter as the cause. He never uses a glass tube, but inserts a gauze drain twisted into the form of a wick and removes it as soon as possible. It is better, however, to omit drainage where this can be done, as the danger of ventral hernia is very pronounced. This complication had occurred in speaker's practice and he was inclined to attribute it to the drainage tube.

DR. ROBERT FUNKHOUSER has learned to regard drainage as a necessity in all abdominal operations; he omits it in exceptional cases only, and then almost always has occasion to regret it. He uses it in all cases where he is in doubt, where there is much hemorrhage or any oozing, where there have been many adhesions, or where there has been pus. The glass drainage tube, left in for 24 to 28 hours, or until all active oozing has subsided, to be substituted by wick drainage, has proved most efficient. Speaker has seen hernia following abdominal section and vaginal hysterectomy, and probably as he gains more experience he might abandon drainage, but at present he considers it the proper thing to do.

DR. FINLAY said we should use drainage tubes where adhesions must be broken up, and where we would expect to have oozing as a consequence. The danger of hernia is not very materially increased if not too large a tube is used or if it is not allowed to remain too long.

DR. A. H. MEISENBACH considered the subject of drainage pretty definitely settled in the professional mind. Drainage is not a part of an ideal operation and it should not be used as a matter of routine, but to meet special indications. If there have been no adhesions or excessive hemorrhage, or if the pus is not of a virulent character there is no need of drainage and the tube should be discarded. In the reports of the Johns Hop-

kins Hospital we find that Kelly, in the early part of his career, used the drainage tube constantly, but that he has latterly discarded it in all cases, save those in which the pus found was of a virulent character.

Speaker did not think that Dr. Morris is warranted in drawing the conclusion in his comparative observations. They do not necessarily indicate that there is a relationship between the nausea and the omission of drainage. The sick stomach was probably due either to shock or to improper treatment of the gastro-intestinal tract. The stomach should receive careful attention before operation and all catarrhal conditions be properly looked after.

DR. GEORGE WILEY BROOME said the history of surgery will bear out the statement that operators in the earlier part of their career are always in doubt as to the use of the drainage tube. Kelly has almost abandoned it; Roswell Park said, four years ago, that the indiscriminate use of the drainage tube is through either ignorance or fear, both of which are unscientific; and Senn has almost discarded it. These three men represent American surgery, and their views in reference to this procedure should be respected. Speaker considers its use unsurgical and unscientific, except in very exceptional cases, one of which was reported by Dr. Meisenbach a few weeks ago—a case of resection of the gut following strangulated hernia.

The sick stomach following laparotomy may be readily overcome by following the suggestion of Kelly, the infusion under the mammary glands of a saline solution. The relief is almost instantaneous and is lasting.

ABSTRACTS

MEDICINE.

Tumors of the Corpus Callosum, With Account of a Case.—W. B. Ransom (*Brain*, Part LXXII, p. 531) reports the case of a woman, aged 24, married two and one half years, never pregnant; of excitable, neurotic disposition; no syphilis, moderate alcoholic indulgence. Six months after marriage a fit occurred, following a mental shock. At one time the fits recurred every other day; for the last few weeks only once a week. Each fit was preceded by aura in the form of general excitement, with peculiar sensation in the temples. Twitching began in left hand and arm, passing to left leg, left side of face, with deviation of head and eyes to the left. Tongue not bitten. Urine occasionally escaped. No hysteroid attacks followed. During past year excitability has much increased, and her usual headaches have been more severe, pain being most intense at nape of neck and in temples; but no thyroid enlargement; no palpitation; no sweats; pulse 120.

Under bromide treatment fits ceased, but mental excitability increased, and she became unmanageable. Delusions of persecution appeared. Tongue coated, constipation present. No nausea or vomiting. Generative organs normal. No paralysis, no alteration of general sensation or special senses. Slight general-intention tremor; gait uncertain; tottering to the left. Reflexes normal; pupils normal. Commencing double optic neuritis. Under treatment with chloral and bromides patient improved until a month had passed, when the fits recurred, followed by bi temporal headache, vomiting, double ankle clonus, and loss of tactile sensibility in both legs—all of which disappeared in two weeks.

Four months after the first examination the patient manifested no symptom of serious organic disease of the brain, except the optic neuritis. She died very suddenly. At the necropsy a tumor of the size of a Tangerine orange was found between the cerebral hemispheres, springing from the middle of the corpus callosum and bulging slightly into each lateral ventricle—an oval celled sarcoma.

The author appends an analysis of twelve cases of tumor of the corpus callosum. Headache was absent in five, and well marked in only two cases. Vomiting occurred only in two cases beside the author's, and in his only after a fit. Optic neuritis was noted in four and stated to be absent in four. Dementia was the only sign of mental disease common to all, excepting one case, of which the account was imperfect. Convulsions were present in three of the twelve cases. Some degree of paralysis was observed in seven cases, and in six it took the form of hemiplegia, with some rigidity. The leg was earlier and more markedly affected than the arm, and in one the face escaped. Aphasia was noted in one case. In all the cases with paralytic symptoms tumor had invaded the white substance of the hemispheres. Sensation was normal in six cases.

In one case the special senses were markedly affected. In two cases the patellar tendon reflex was increased on the paralyzed side. Ankle clonus appeared in one case after a fit only. Pupil reflexes were normal except in one case, where there was pressure on the optic nerves. The cranial nerves almost invariably escaped. The duration of the symptoms varied from five weeks to three years. Death occurred from coma in six cases, in two cases from multiple hemorrhages, in two from pulmonary complications, in two in an unexplained way.

The author concludes that a positive diagnosis can not be made. Early and marked mental degeneration appears characteristic, taking the form of irritable insanity with delusions in the chronic cases. Hemiparesis with rigidity, or convulsions without paresis—the spasms being bilateral, but more intense on one side—accompanied by integrity of the cranial nerves, and little or no change in the tendon reflexes, combine to strengthen the suspicion of tumor of the corpus callosum, without being diagnostic.—*American Med.-Surg. Bulletin.*

Pancreatic Lesions and Diabetes.—Obici (*Boll. del Sc. Med. di Bologna*, Ser. 7, vol. iv) investigates the present views upon the question, and points out that the results obtained by experiment differ from those obtained from clinical and experimental pathological observations. He thinks it possible that some as yet unknown factor may have played a part in the experimental cases. He examined histologically two cases of diabetes which ran an equally rapid course and had the same amount of sugar excretion. In one the pancreas was absolutely healthy, in the other there was advanced interstitial pancreatitis. One must therefore be aware of regarding all the more severe forms of diabetes as dependent upon a pure pancreatic lesion. The course of the disease in cases where the pancreas is markedly affected is not always the same, since in the second case the glycosuria diminished for some time with a flesh diet, which should not have occurred in a case which, according to prevalent ideas, was one of "pancreatic diabetes." Hirschfeld showed that, besides the pancreatic lesion in four cases, capillary hemorrhages were also to be found in the neighborhood of the fourth ventricle. The author also describes two cases of interstitial pancreatitis and one of carcinoma of the pancreas with complete destruction of the gland, in all of which there was no glycosuria. In the first of these cases the interstitial pancreatitis was of vascular and lymphatic origin, which Lepine regards as characteristic for the pancreatic diabetes, since it hinders the outflow of the glycolytic ferment into the blood which, according to his theory, is secreted by the pancreas. The absence of glycosuria in this case is against this theory.—*Brit. Med. Jour.*

SURGERY.

Acute Osteomyelitis of the Spine.—This affection is extremely rare in contrast with tubercular disease of the spine, and is relatively more fatal (Mueller, *Deut. Zeitsch. f. Chir.*) The clinical history of osteomyelitis in other parts of the skeleton, except the skull, is well known, but the cases on record in which the vertebræ were affected are few, and show such variations anatomically and clinically that additional reports would be very valuable.

Mueller has succeeded in collecting seven cases of osteomyelitis. They are distributed as follows: One case involved the sacrum, two the lumbar vertebræ, three the dorsal region, and one the cervical. The body of the vertebræ was affected twice, body and transverse process once, arch once, arch and transverse process once, body and spinous process once, body and arch once.

The author reports the following case, which gives a good clinical picture of the disease: A girl 12 years old was struck on the spine with the hand in the sum-

mer of 1891. There was local pain often, but the child went to school, and had no alarming symptoms till December 10, 1891, when she had chills, headache, severe pain in the back, and four days later the temperature was varying between 88° and 39° C. Three days later paresis of legs. January 14, 1892, retention of urine. In 12 hours motor and sensory paralysis became complete to nipple line, left side being a little higher than right. No diminution of knee-jerk; no clonus. No deformity of the spine, but slight edema of the upper dorsal and lower cervical regions. Lungs negative. Urine turbid, containing some albumin. A diagnosis of Landry's paralysis was made. Incontinence of urine and feces became complete. January 5, swelling increased; on left side of three upper dorsal spines there was an abscess as large as a goose-egg, with redness of the skin. January 6, evacuated brownish gray pus containing many fat-globules, brownish lumps, and blood-clots. The deep spinal muscles were degenerated into punk-like masses. There was total necrosis of left half of arch of second dorsal, and the greater part of the spinous process; the inner surface of right half of arch and the left transverse process are also affected, and all these parts were removed. Pus of the same character escaped from the canal. The dura pulsated normally, but appeared thickened and covered with rough, brownish masses. No signs of external compression. No cheesy masses. Iodoform gauze tamponade. Immediately after the operation the pus was examined. There were no tubercle bacilli, but many colonies of cocci. Much fatty detritus. The granulations, fat tissue, and bone were also examined, and no tubercle bacilli were found.

After the operation the pains ceased, the temperature sank below 37° C., the appetite improved, and some decrease in the extent of the anesthesia was noted. In spite of irrigation a foul cystitis developed, with suppuration of the kidney. Bed-sores, edema of lungs followed, and patient died January 24, 1892. The wound was granulating well, and there was scarcely any suppuration. The dura was quite soft opposite second dorsal vertebræ, and the underlying cord of almost pulpy consistence. Again examinations of the various structures failed to show tubercle bacilli. Periosteal bone-growth had begun. Morian also, in his two cases, found brown pus, yielding cultures of staphylococci.

The rapid formation of a spinal deformity alone proves little as to the etiology, since tuberculous spondylitis has often an acute onset; fractures and osteomalacia must also be excluded. What part osteomyelitis plays in these cases, especially where they follow a slight traumatism or an infectious disease, is still a question. The reason for the relative immunity of the spine from osteomyelitis is also unknown. Even the ankle-joint is more frequently attacked than this great mass of bones. Whether the spinal focus is primary or secondary the infection takes place through the arteries, and the symptoms and treatment are the same in either case. These cases often, no doubt, escape notice on ac-

count of a simultaneous pulmonary disease or nervous affection. Much greater deformity would follow these attacks were it not for the early reparative process taking place from the periosteum. This fact can be used directly as a help in diagnosis from analogous tubercular infections. The formation of abscess seems to be the first positive indication of the nature of the disease. These usually require from eight to fourteen days to appear, but may burrow in unexpected directions, and remain undiscovered for some time. If spinal cord symptoms are present, it seems to be proper to relieve the pressure from these abscesses early, as the tendency here is to advance rapidly, in contra distinction to the clinical history of tuberculous disease. The first symptoms of compression in acute osteitis are due to anemia, stasis, and inflammatory edema, while softening and myelitis follow as secondary processes. Whether these can be avoided by an earlier opening of the canal will be decided by future observations. In the cases reported by Mueller the abscesses were opened on the fourteenth, nineteenth, seventeenth, and twenty seventh days. The first case recovered, the others died. The fatal character of this disease is shown by the fact that five out of the seven cases reported died.—*Amer. Med.-Surg. Bulletin.*

OBSTETRICS AND GYNECOLOGY.

Prolapse of Urethra in Female Children.

—Broca (*Annales de Gyne. et d'Obstet.*) examined in February, 1896, a girl, aged 6 years, who had alarmed her mother through the appearance of blood at the vulva for three days. It was naturally taken for menstruation. The child had been kept in bed for two weeks on account of severe bronchitis, with violent coughing. On the day that she got up for the first time, the bleeding began. Broca examined the parts, and noted a little red protuberance at the meatus, caused by prolapse of the urethral mucous membrane. He directed that the everted mucosa should be touched with a 2% solution of nitrate of silver. The bleeding ceased permanently after the first application. At the end of three days the cure was complete. Broca lays stress on this case, as it shows the extreme importance of early recognition and early treatment of this affection. In another case the mother suspected rape. The Court ordered a medical examination, and the truth was at once made evident. Thus the meatus must be carefully explored in all cases where blood is found near a child's genitals. Neglect of treatment leads to complete prolapse, not curable by caustics. Then ligature of the prolapse around a retained catheter, or excision by the cautery are objectionable. Circular excision is indicated. No more mucous membrane should be drawn down, else a thrombus may develop in the submucous tissue, and stricture ultimately follow. Again, the upper part of the mucosa should be fixed by passing the sutures

through it before the excision, else it will slip up very high and give great trouble. The sutures must be very carefully tied at the end of the operation.—*Brit. Med. Jour.*

Abdominal Section in Newborn Infants for Umbilical Hernia.—Marjantschik (*Centrbl. f. Gynak.*) relates an operation upon a female child aged a little over 30 hours. There was a large umbilical hernia. The liver was almost entirely in the sac, and reduction of the intestines proved very difficult. The edges of the abdominal wound were vivified and united by twelve deep and four superficial sutures, the former being passed through all the layers of the parietes. The child took a dram of chloroform during the 55 minutes that the operation lasted. Full antiseptic precautions were taken. The child died on the fifth day. Peritonitis and gastro-colitis were detected. Marjantschik regrets that an enema of 10 minims of cognac, and also 2 drops by the mouth, were given on the third day. To this medication, intended as a stimulant, he attributes the gastro intestinal inflammation. The spleen was ill developed. The author tabulates 31 cases of abdominal section in newborn infants for hernia funiculi umbilicalis, making 32 in all, out of which 8, including his own died; 3 died within seven hours; 4 within five days, one or more of these might have succumbed to some coincident affection. The eighth (Treves') died of convulsions on the twenty-third day. Out of the 24 recoveries, 4 were reported as cured within a month (one only two weeks) of the operation; the remainder seem to have been observed for a longer space of time before their cases were recorded.—*Brit Med Jour.*

NOTES AND ITEMS

The French Academy of Medicine has awarded the St. Paul prize of \$5,000 jointly to Messrs. Roux and Behring for their discovery of diphtheria antitoxin.

The Rush Monument Fund.—Since the first of the present year the amount of new subscriptions received has been \$281, making the total amount on hand \$3,729.39.

The Delaware District Medical Society of Indiana will hold its next regular meeting at Dunkirk, Ind., June 16 and 17, 1896. An interesting meeting is anticipated.

American Pediatric Society.—The eighth annual meeting of this Society will be held at Montreal on May 25, 26 and 27, under the Presidency of Dr. Joseph O'Dwyer, of New York.

The American Gynecological Society.—The twenty-first annual meeting of this Society will be held in New York on May 26, 27 and 28, under the Presidency of Dr. William M. Polk, of New York.

Cholera in Marseille.—Several cases of cholera occurred recently in Marseille, France. Friday, May 8, three cases were reported of which two died, on the following Monday five new cases with three deaths were reported.

The Lincoln Medical College of Cotner, Neb., University, has filed its articles of incorporation. The purpose is to re-organize and carry on the medical college at Cotner. The capital stock of the University is \$50,000.

American Association of Physicians and Surgeons.—This Association will hold its next meeting at the Hotel Iroquois, Buffalo, N. Y., June 23-28, next. Dr. R. C. Kelsey, of Indianapolis, Ind., is permanent Secretary of the Association.

Oregon State Medical Society.—The President, Dr. O. D. Doane, The Dalles, and the Secretary, Dr. E. F. Tucker, Portland, have issued a call for volunteer papers for the Oregon State Medical Society, which is to meet in Portland, June 9, 1896.

Outing for the Patients of the Insane Asylum.—On Saturday, May 10, a picnic was arranged by Superintendent Dr. E. C. Runge for the patients of the Insane Asylum. The event proved to be of much benefit to the patients, and Dr. Runge is contemplating to provide for the arrangement of similar occasions. The usefulness of such outings is, of course, selfevident and universally admitted.

The Alkalinity of the Blood in Relation to Immunity.—Calabrese (*Il Policlin.*, Feb. 15, '96) as the result of an extensive investigation of this subject, comes to the following conclusions: The alkalinity of the blood goes on increasing *parri passu* with the acquisition of immunity or refractoriness towards disease, however produced. The immunized organism responds to deleterious agents with augmented alkalinity, moderate in degree and lasting some time, and never giving place to a diminished alkalinity with respect to the normal, as happens in the healthy organism. Rabbits immunized against anthrax, diphtheria, etc., do not resist poisons different from those against which they have been vaccinated, but present nevertheless a notable delay in death as compared with control animals. Finally, the author asserts that the alkalinity of the blood is the most powerful and most constant of the means of defense which the immunized organism puts into play to defend itself against hurtful agents and to annul the evil effects of the same.—*Brit. Med. Jour.*

A Sympathetic Ganglion in the Human Ovary.—Winterhalter (*Archiv. f. Gynaek.*, Vol. LI, Part I, 1896) has found that the vessels of the ovary have a perivascular network of nerve fibers (*Brit. Med. Jour.*). A ganglion lies in the middle of the zona vasculosa; it is made up of structures bearing the characters of sympathetic ganglion cells; their processes surround the very convoluted vessels in the neighborhood, breaking up into delicate plexus. Winterhalter could not actually trace any processes passing from the ganglion cells directly into the follicular zone, but he believes that they enter that part of the ovary as the plexuses above described on the vessels.

Hours of Sleep.—A healthy infant sleeps most of the time during the first few weeks, and in the early years people are disposed to let children sleep as they will (*N. Y. State Med. Jour.*). But from six or seven years old, when school begins, this sensible policy comes to an end, and sleep is put off persistently through all the years up to manhood and womanhood. At the age of ten or eleven the child is allowed to sleep only eight or nine hours, when its parents should insist on its having what it absolutely needs, which is ten or eleven at least. Up to twenty a youth needs nine hours' sleep, and an adult should have eight. Insufficient sleep is one of the crying evils of the day. The want of proper rest and moral conditions of the nervous system, and especially of the brain, produces a lamentable condition, deterioration in both body and mind, and exhaustion, excitability, and intellectual disorders are gradually taking the place of the love of work, general well-being, and the spirit of initiative.

A New Method of Staining Nervous Tissue.—Vastarini-Cresi (*Rif. Med.*) describes a new and effectual method of staining the spinal cord, etc., for macroscopic purposes. The entire cerebro-spinal axis with the meninges is plunged in about 3 liters of an aqueous solution of formaldehyde (16 per 1,000). The tissue is left in this liquid for two weeks, the meninges being removed on the second or third day. Sections from 3 to 5 cm. thick are then cut and kept in distilled water, or better in alcohol, at 40° for twelve to twenty-four hours, then placed in .75 per cent sol. of AqNO_3 in the dark. The white substance soon becomes stained brown. A prolonged stay in the AqNO_3 sol. does no harm. The stain may be fixed for an indefinite time if the preparation is left for two or three days in the dark in distilled water, and then in alcohol at 70°. Tissue so prepared shows in the clearest manner the relations between the white and the grey substance—for example, in the medulla one could distinctly see with the naked eye the respiratory fasciculus of Krause. The advantages claimed by the author for this method are its simplicity and rapidity of execution, the constancy of the results, and its great teaching value.—*British Medical Journal*.

PUBLISHER'S DEPARTMENT.

THE UNITED STATES OF AMERICA. }
Northern District of Ohio, Eastern Division, ss. }
At a stated term of the Circuit Court of the United States, within and for the Eastern Division of the Northern District of Ohio, begun and held at the City of Cleveland, in said District, on the first Tuesday in February, being the 4th day of said month, in the year of our Lord, One Thousand Eight Hundred and Ninety-Six, and the Independence of the United States of America, One Hundred and Twentieth, to-wit: On Tuesday, the 25th day of February, A. D., 1896.
Present, the Honorable Augustus J. Ricks, U. S. District Judge.

THE DREVET MANUFACTURING CO., } In Equity.
vs. } No. 5494.
A. P. BEACH.

This cause came to be heard, this 25th day of February, A. D., 1896, on motion of the Complainant for an order to defendant to show cause why an Injunction *Pendente Lite* should not issue against him as prayed for in Complainant's Bill, and on reading said order herein, and proof of service thereof on defendant, and the bill of Complainant's, and the affidavits on behalf of Complainant's filed therewith, and Counsel for Complainant having been heard, (defendant not being present or represented) the same having been duly considered by the Court, and it appearing that Complainant has adopted the trade mark as set forth in their bill, and caused same to be registered as appears by the certified copy of the certificate of such registration, to-wit: Certificate No. 18236 also introduced in evidence by the Complainant, and it further appearing that said defendant has infringed on the rights secured by said complainant, as set forth in its bill. Now, therefore, it is hereby ordered, adjudged and decreed that a preliminary injunction be issued pursuant to the prayer of the Complainant's bill, strictly commanding and enjoining the said defendant, A. P. Beach, his clerks, agents or workmen, under the pains and penalties which may fall upon them, and each of them, in case of disobedience, that they forthwith, and until the further order, judgment and decree of this Court, desist from making and selling a liquid preparation put up in bottles with labels applied thereto, bearing the name of "Glycozone," or in any manner using the name "Glycozone" in circulars or labels put out by him referring to the said standard preparations of said Charles Marchand, in connection with instructions for the use of said product "Glycozone" as a preventive of conception, or in any manner connecting it with the use of his so-called "Applicator" as a preventive for conception, or in any manner making or selling, or causing to be sold in connection with said Applicator, or using, making or selling, or sending out circulars to use "Peroxide of Hydrogen" (Marchand's Medicinal) in connection with the use of said "Applicator" as a preventive of conception, and that defendant deliver up to be destroyed, or destroy all bottles, labels, circulars or other things containing complainant's trade mark.

EUROPEAN ENDORSEMENTS.—The *London Lancet*, March 28, 1896, says editorially: "Antikamnia is well spoken of as an analgesic and antipyretic in the treatment of neuralgia, rheumatism, etc. It is not disagreeable to take, and may be had either in powder or tablet form, the latter being made in five-grain size. It is described as not a preventive of, but rather as affording relief to, existent pain. By the presence in it of the amine group it appears to exert a stimulating rather than a depressing action on the nerve centers and the system generally. If this be so, it possesses advantages over other coal-tar products."

The concise endorsement of the *Edinburg Medical Journal*, which appeared in the January issue, is equally interesting: "This is one of the many coal-tar products which have lately been introduced into medicine in Scotland. In dose of 3 to 10 grains, antikamnia appears to act as a speedy and effective antipyretic and analgesic."

MEDICAL REVIEW.

A WEEKLY JOURNAL OF MEDICINE AND SURGERY.

VOL. XXXIII.

ST. LOUIS, MAY 30, 1896.

NO. 22.

ORIGINAL ARTICLES

Some Practical Points on Glaucoma.

BY J. ELLIS JENNINGS, M.D., ST. LOUIS,

Ophthalmic and Aural Surgeon to the St. Louis Mullanphy and Methodist Deaconess Hospitals, Consulting Oculist to the Missouri, Kansas and Texas Railway System, Etc.

Read at the thirty-ninth annual meeting of the Missouri State Medical Association, at Sedalia, May 19, 20 and 21, 1896.

There are certain diseased conditions of the eye about which each and every practitioner should be well informed, and none deserves a more careful study than glaucoma.

When an eye becomes inflamed the family doctor, very naturally, is consulted and if the disease be glaucoma, a very grave responsibility is thrust upon him. Grave, because a correct diagnosis means an eye saved, while an erroneous one means an eye irretrievably lost. Therefore, the subject of my paper, "Some Practical Points on Glaucoma," should be of interest to the members of this Society.

Glaucoma may be *primary*, that is, appearing in an eye which has not been previously diseased, or *secondary*, that is, coming on as a result of diseased conditions, such as an annular adhesion of the iris and lens, dislocation of the lens, wounds, tumors, etc. As the primary form is the one usually seen by the general practitioner we will confine our remarks to this variety.

Glaucoma is a disease dependent for all of its symptoms upon an increased tension of the eyeball, and this increased tension or hardness, is now thought to be caused by a blocking up of the outlet of the ocular fluid, which is situated at the angle of the anterior chamber. We must pause a moment to study the secretion and excretion of this ocular fluid and the causes which lead up to a blocking of its outlet. The aqueous humor, which fills the anterior chamber, is a limpid liquid which is rapidly and continuously secreted by the glands of the ciliary body. This fluid passes forward through the pupil into the anterior chamber and leaves the eye at the filtration angle, by way of the ligamen-

tum pectinatum and Schlemm's canal. It is at once apparent that if this outlet is blocked, the aqueous humor will accumulate until the pressure is very great and the eyeball feels as hard as a stone. This pressure or increased tension as it is called, does a vast amount of damage, destroying the function of the retina, and causing a deep cup or excavation of the optic nerve.

PREDISPOSING AND EXCITING CAUSES OF GLAUCOMA.

It has been found that glaucoma occurs most frequently in small or far-sighted eyes and that the liability to the disease increases throughout life. Priestley Smith has shown us that the normal eyeball increases in size but little after the fifth year, while the size of the crystalline lens increases with each succeeding year. In small eyes, therefore the lens occupies much more space than in the normal, and leaves little room for the passage forward of the aqueous humor. With advancing years this passage becomes narrower and narrower and an eye in this condition is peculiarly predisposed to glaucoma, and only needs an *exciting cause* to precipitate an attack. The exciting cause may be the use of atropine, emotional excitement, as weeping, anxiety or grief, in short, anything which will tend to congest the ciliary processes and thicken the iris. When this occurs the aqueous current is interrupted and the iris is driven forward against the cornea, blocking Schlemm's canal, the most important exit for the aqueous humor.

SYMPTOMS OF GLAUCOMA.

The typical case of primary glaucoma runs its course much after this fashion. At intervals of several weeks or months the patient is subject to what he terms "attacks of neuralgia." There is dull frontal headache, the eye feels full and the sight is obscured. At night there is a halo about the light. If we examine the eye during such an attack the cornea looks steamy, the ocular conjunctiva is slightly reddened, the anterior chamber is shallow, the pupil is dilated and the *tension of the globe increased*.

Now these eye symptoms are not very pronounced and as they disappear in a few hours it is very easy, unless on your guard, to make a diagnosis of "*neuralgia with a little cold in the eye*."

In the intervals between the attacks, the sight is normal but the power of accommodation is diminished. The patient finds it necessary, at frequent intervals, to

change his reading glasses for stronger ones. As this symptom is one which should at once awaken suspicion of glaucoma, I desire to impress it upon your minds by relating the following case:

In the spring and summer of 1893, Mrs. P., aged 64, was subject to frequent attacks of neuralgia and slight redness of the eye which she attributed to catching cold. In October of the same year she noticed that her vision was failing. She found that she was unable to see to read and sew with her old glasses and bought a stronger pair from her jeweler.

After using the new pair for several weeks she returned them for a still stronger pair, but with no better result. The jeweler, finding that no glass improved her vision for close work, in his ignorance gave her the following disastrous advice. He said, "Madam, your eyes are just changing from one strength glass to another, and if you will wait about six months, the next stronger glass will fit you." Following this advice, the lady paid no further attention to her gradually failing vision until, as a result of great anxiety and grief, attending the illness and death of her daughter, she had an attack of inflammatory glaucoma, which nearly ended in blindness.

We have, therefore, as prodromal symptoms of glaucoma, attacks of neuralgia, dull frontal headache, fullness in the eye, colored rings about the light, dimness of vision and a weakness of the muscle of accommodation.

The second or inflammatory stage of glaucoma is ushered in by violent pain radiating from the eye to the forehead, ears and teeth. The patient is unable to eat or sleep. The vision, until now fairly good, fades rapidly away, until only large objects close at hand can be distinguished. An examination of the eye shows the *appearances of the prodromal stage intensified*. The lids are edematous, the eye is of a dusky red color, the cornea has lost its clearness, the iris is pushed forward, making a shallow anterior chamber, the pupil is dilated, does not react to light and is of a greenish gray appearance. The tension is considerably elevated and the eye often feels as hard as a stone. An ophthalmological examination shows pulsating arteries, and a "glaucoma cup." This excavation takes in the whole of the optic disc, is deep and has overhanging edges. The blood-vessels instead of running to the center of the disc, dip down and for some distance are lost to view. After such an attack has lasted a few days or weeks the patient begins to feel better, the symptoms subside and vision improves though very much impaired. The eye remains quiet for some time and the patient is deluded into a hope that the disease is cured. But unfortunately the end is not yet, for another and then another attack sets in, each causing a still further reduction in sight until finally the eye becomes totally blind.

DIAGNOSIS.

As has been mentioned, the pain of glaucoma radiates from the eye to the forehead, ears and teeth. The pa-

tient may not associate the pain as coming from the eye, but complains of neuralgia, headache, or if the eye be inflamed, gives a history of erysipelas. The physician should not be deceived by such statements, but should examine the eye carefully and make a diagnosis from the facts thus obtained. The hazy cornea, the dilated and sluggish pupil, the narrow anterior chamber, the increased tension together with a cupping of the optic disc, make up a characteristic picture. The only disease which might be confused with glaucoma is iritis. But in iritis the pupil is contracted and the tension is normal. It is of the greatest importance that you be able to estimate tension. If you palpate your own eyeball through the closed lid with the index fingers, you will notice that the eye feels moderately firm, yet gives a little under your fingers. This is spoken of as normal tension. If you now palpate your forehead, the sense of resistance met with will give you a good idea of what is meant by increased tension. When in doubt as to whether the tension of an eye is normal or increased you should always compare it with the other eye.

TREATMENT.

In the treatment of glaucoma we have at our disposal two methods, one palliative, the other curative. The palliative method consists in the use of the miotics, eserine or pilocarpine. We usually order eserine gr. ss-grs. ij to ʒj, instilled once a day or at frequent intervals as the case may require.

Eserine relieves tension by contracting the pupil and drawing the iris away from its false position against the cornea. In this manner we can cut short a prodromal attack and for a long time prevent the progress of the disease.

Eserine is also useful in relieving the pressing symptoms of an inflammatory attack and enables us to delay operative procedures a few days until a more favorable moment. Miotics have no curative power, however, and as the patient is apt to neglect treatment under the supposition that his trouble is over, we should point out the danger and insist on attempting a cure by means of iridectomy. The operation consists in making an incision similar to that made in cataract extraction, but the wound is not as long and should lie in the sclera, not in the cornea. With the iris forceps we then grasp as much iris as possible and drawing it out of the wound snip it off close to its ciliary attachment. Care having been taken that no iris tissue is included in the wound, the eye is cleansed and a bandage applied.

[2942 Washington Avenue.]

Medical Graduates in France.—The total number of candidates on whom the degree of doctor of medicine was conferred in France in the academic year 1894-95 was 969. They were distributed among the several medical faculties as follows: Paris, 537; Lyons, 12; Bordeaux, 110; Montpellier, 64; Toulouse, 57; Lille, 44; and Nancy, 15.

Alcohol Not a Stimulant.

BY W. L. WARRINER, M.D., LA CYGNE, KAN.

Read before the Kansas State Medical Society, Topeka, Kan.,
May 14, 1896.

To gain a correct knowledge of the pathological conditions of the human body together with the physiological action of all material substances used in medicine should be the desire of every thoughtful and conscientious physician and whether that knowledge be gained by experimentation and observation on animals or clinically by the bedside of suffering humanity matters not if it is correctly and scientifically acquired.

While new remedies are constantly being brought to the notice of the medical profession we are still using some of the old remedies and attributing to them qualities in some instances which they do not possess.

Would it not be well for us all to observe more closely the effects of medicines which we use every day and consider as indispensable in our practice just because perhaps we were taught to use them?

It seems to me that all animal life is dependent for nutrition, growth and development upon materials resulting from animal or vegetable growth and that it needs very little inorganic matter.

Alcohol is not found as a proximate principle in organic tissue. It is a bacteriological ferment, produced by bacteria working in saccharine substances. We find in the human body, oxygen, hydrogen, nitrogen, etc., but no alcohol, that is, in the natural state of the body.

Alcohol was formerly supposed to increase oxidation but this has been proven to be a mistake, by observation in all modern arctic explorations and in other ways. Of course the flush of blood in the peripheral surfaces, the quickened pulse, the elevation of surface temperature, the livelier mental expression, stand forth in characters so distinct that every one of ordinary faculties can see them.

But I will endeavor to show that these are not caused by increased oxidation; not caused by alcohol being a stimulant but by the fact that it is a paralyzer rather than a stimulant.

While the writer was a student in Northwestern University Medical College, in Chicago, a series of experiments were executed in the pathological laboratory with microscope and spectroscope on blood drawn from living rabbits and mixed with alcohol in varying proportions which tended to show that alcohol was not oxidized but escaped unchanged in a free state.

Now I claim that if any substance is a depressor or a paralyzer in large doses it certainly has the same effect in smaller quantities. We all know the effect of alcohol if taken in poisonous doses, where it is followed by complete paralysis and coma. No one would claim for a moment that morphine in minute quantities increases pain and that the dose must be large to secure the opposite effect.

Why does the use of alcohol dilate the capillaries,

noticeably on the face? Is it not because the vaso motor nerves which control the capillary system are paralyzed, thus allowing the blood to rush in uncontrolled and dilate them similar to the instantaneous blush on the cheek from fear, shame or pride?

If a toxic dose of alcohol will cause diminished nerve and muscular power, and finally complete coma and paralysis, it seems very plausible that the action of it, even beginning with a small dose and increasing it, paralyzes the nerve centers, causes anemia of the brain and drives the blood to the surface owing to the vaso-motor system losing its function.

The venerable Dr. N. S. Davis, of Chicago, who has been in active practice since 1837, and who has never used or prescribed liquors of any kind says:

"How any material substance can possess such properties as to be capable of diminishing the sensibility of the whole nervous system, of impairing the oxidizing power of the blood corpuscles, lessening metabolic changes in all the living structures and by contact be absolutely poisonous or destructive to both vegetable and animal life, and yet be capable of stimulating the exhausted nervous system; of becoming real food, and of exhibiting such ubiquitous tonic powers as to constitute a universal remedy for debility of every kind is certainly beyond the comprehension of an ordinary mind."

The increased action of the heart from alcohol according to some late observations is due not to stimulation but to a diametrically opposite effect. If the pneumogastric nerve is divided the heart's action is increased for a time. If a "tonic" dose of alcohol is given it paralyzes to a certain degree the inhibitor of the heart thus allowing it to run away as it were.

Listen to the words of Sir Benjamin Ward Richardson, of whom a better authority I do not think exists:

"What, then, does alcohol do? Why, in the name of common sense should the idea that it imparts strength, when all around it supports weakness, be for a moment entertained and why should such an idea create a difficulty in obtaining from alcohol? The answer is the same as before. The alcohol imparts no strength but reducing the vascular resistance it enables a feeble and enfeebled heart to do for a moment a spurt of work; nothing is gained."

J. V. Shoemaker, in his work on "Materia Medica," referring to the use of the substance under discussion says:

"The arterioles are thus dilated admitting more blood to the brain and this is succeeded by diminution of mental activity, owing to the effects of the alcohol upon the ganglion cells weakening their action." He also says: "Death is caused by respiratory paralysis and lowering of bodily heat."

Professor Egbert, Lecturer on Hygiene at the Drexel Institute, Philadelphia, in speaking to a class in physical training, said:

"Alcoholic stimulants must be absolutely forbidden one who is in training as they liberate far more force

than they replace in the body and also increase the heat dissipation which is only a loss of energy in another form."

I quote the following from a paper read by Dr. W. L. Ester, A.M., M.D., at a meeting of the N. Y. State Association of R. R. Surgeons, held in New York City, November 12, 1895, and printed in the *International Journal of Surgery* for February, 1896:

"The use of alcohol, as a stimulant in shock, has seemed harmful in so many instances that I have abandoned it. As a vaso-motor paralyzer it encourages hemorrhage and oozing; it is apt to increase restlessness, and when given in large doses weakens the heart through its paralyzing effect on the nerves of innervation."

Four of our best authorities, viz., Drs. N. S. Davis, of Chicago, H. C. Wood, of Philadelphia, H. H. Martin, of Johns Hopkins University, and Benjamin Ward Richardson, of London, have all come to the conclusion, owing to actual proof obtained that alcohol lessens the sensibility and motive power of protoplasm and in small doses as well as large that it is *not* a stimulant.

Not wishing to make this paper exhaustive, but wishing simply to give my views in regard to alcohol not being a stimulant, I close hoping that I may have elicited sufficient interest to cause a discussion of the subject.

Medical Jurisprudence.

BY CHARLES N. NOBLE, JERSEYVILLE, ILL.

Read before the Medical and Surgical Society of Western Illinois, Whitehall, Ill., May 1, 1896.

MR. CHAIRMAN AND GENTLEMEN.—At the meeting next previous to this one of your Association it was suggested that a paper be read at this meeting touching upon Medical Jurisprudence, and the Program Committee asked me whether I would consent to read such a paper.

Gentlemen, I am more than pleased that this privilege has been allowed me, and to return your kindness I shall faithfully endeavor to give you something of interest, and also something that will be of *some* benefit to you. I have but one thing to regret, and that is that I were more able to do the subject justice which I have chosen. I would have you feel, before I begin, that Medical Jurisprudence covers a large area and one that is not a small undertaking for even an experienced jurist. My subject, I felt, would cover some—at least a small portion—of the ground of Medical Jurisprudence, and be of some practical use to you as practicing physicians. I have selected this as my subject:

THE DUTY OF A DOCTOR TO HIS PATIENT AND THE DUTY OF THE PATIENT TO HIS DOCTOR.

You are, no doubt, aware that in all professions there rests responsibilities; these responsibilities differ in dif-

ferent professions; I belong to a class of professional people in whom there rests responsibilities. Our professional duties require of us very much and we do a great good in our line, but we can not save the life of a person, or assist a person whose life is in peril, because we have not assumed that profession and that duty. We assume or profess to know how to administer the laws of this land as applicable to the cases that we are fortunate enough to get. We are consulted and counseled with, *only* when disputes arise. When the remedy is the *law alone*, then, and only then can *we* be counseled or consulted professionally. Responsibilities, yes we have responsibilities, but they are not for a moment so great and grave responsibilities as those resting upon the shoulders of a doctor. Why? A doctor is summoned when life is in danger; when it is thought the awful viper of disease is beginning to eat away the very life of some poor person who has fallen a victim to its fearful sting. The doctor is called to the bedside of a sick mother or father, or brother or sister, or some very dear friend, when life seems but a small thread upon which to base hopes of recovery. In the midst of sorrow and all the sadness that could attend such an occasion the doctor is called; all eyes are upon him; if faith lies within the fretted hopes of those sad and sorrowing and expecting ones, it is now centered upon this man whom we term the *doctor*. All the assistance that can be rendered by the family and friends has been done, and now all hope is in *him*, who professionally administers assistance in such trying hours.

The doctor, with one glance of his experienced eye, can quickly discern that the patient is dangerously ill and probably beyond recovery. The doctor in his wisdom and knowledge and experience immediately prepares to administer that which he believes will most speedily bring about recovery. This patient is lingering for weeks and weeks, and the doctor is constantly watching the developments, if there be any, of his treatment, and day after day, and week after week, and presently months pass and the patient, during this time, has been struggling on the ragged edge that divides life and death, and grapples to catch every living thread of life until symptoms appear that indicate the patient is beginning to get better, and from day to day strength is gained. The patient's face grows brighter, and once more the doctor, who has so faithfully watched over the patient and has been the means whereby life has been spared, and those sorrowing and troubled ones begin to have hopes, and can see that the patient is on the road to recover. Day by day brings strength and once more health is restored. Has that doctor a responsibility that seems greater than anyone else? It seems to me, yes. The most sacred thing to man is his life; the doctor is called upon to take that life in his hands, to do what he thinks best to preserve it. The family and friends of that poor sick one, who has now recovered, are overflowing with gratitude; but what of the patient? He is forever indebted that his life has been spared, and his praise shall be endless for the doctor.

This sort of practice is gratifying to the doctor because nothing so pleases any one as a brilliant success, and he sees the world is better for his having lived in it; but that is not all, this doctor has received his reward and has added one more step in the ladder of fame, and now with a contented and spirited heart he steps one step higher.

Again, he is called to the bedside of a young man who has received, very unfortunately, an injury—a broken leg. "This case is easy," says the doctor, as he makes a careful examination of the broken parts, and he sets the leg as he thinks proper by all the advanced methods known to the profession, in *his knowledge*. In this case is where caution and great care must be used by the doctor. Why? Because in these kind of cases generally arise suits for damages, for neglect, ignorance, lack of skill, etc. In this case the doctor may be sued for damages for a lack of skill, for his ignorance or for his neglect. The omission of what he, in law, is bound to perform. An improper performance of what he has a right to do in a proper manner, or what he has undertaken or is bound by law to perform, whereby a consequential injury results to another. In this case the doctor assumes a responsibility, for the law says:

"When a person assumes the profession of a physician and surgeon, the law of this State holds him responsible for *any* injury for a want of reasonable care, skill and diligence in his practice, unless the services rendered were gratuitous, in which case gross negligence will alone make him liable."

The doctor may set the limb properly, but the bandage may be so tight that circulation may be stopped, and this makes him liable if an injury be sustained at all. Again, he may place a defective appliance or splint on the broken limb, and in this case if injured, he is liable. Trespass will lie if the doctor fail to discover a second fracture of the bone, and by his neglect or mistake an injury is sustained. He is liable if the treatment during its recovery is not proper. He may be sued if he fail to attend the patient by visits enough to see that all is doing nicely. The doctor must not get the idea that when he has once set a broken limb and assumes the responsibility of its treatment that he can abandon the patient. He can not do this even if he could not receive one cent of pay for his visits. That which he undertakes he must carry out, and *ANY* injury, no matter what occurred, if the fault be with the doctor, he is liable to the extent of the injury. If the doctor feels incompetent, it is his duty to tell the patient or his family or friends that such is the case, and immediately suggest and insist that another surgeon or physician, who is considered skillful in such cases, be called at once to advise and assist in the proper treatment of the case.

Now, what degree of knowledge and skill is expected? The law says:

"It is the duty of one undertaking to treat a broken or fractured limb, to bring to the case that degree of professional knowledge, skill and care, which a *good*

physician and surgeon would bring to a similar case under like circumstances."

While the law does not exact the highest degree of skill and proficiency attainable in the profession, it does not, on the other hand, contemplate merely average merit. In other words, in order to determine who will come up to the legal standard indicated, we are not permitted to aggregate into a common class the quacks, the young graduates who have no practice, the old ones who have dropped out of practice, the good and the very best, and then strike an average among them. This method would place the standard too low and outside of the meaning of the law.

In all I wish to say that the law is broad and varies on the subject, and every case is its own. Every case, by its evidence and circumstances moulds itself into the shape it takes, peculiar to itself. In all cases there are exceptions, and likewise these cases, for if the patient's duty toward the doctor is not perfect or as nearly as directions could conceive, then all cases and suits at law for damages must fail. I say all cases must fail, and when I say *that*, I want you to interpret my meaning to mean those cases in which the patient by his own folly and neglect is responsible, and were it not for such gross negligence, he would not have sustained an injury. The patient must use ordinary, good common sense, and obey the instructions of his physician, and a variance *material* will place the doctor beyond the reach of any suit at law for damages; but if proven to be the *result* of the doctor's *negligence*, ignorance and act, it matters not how negligent the patient may have been. The physician or surgeon can not bring the necessary skill to a case unless he has it. In all cases where he has been sued for damages for any of the causes I have mentioned, it always devolves upon the plaintiff to prove the deficiency or neglect.

Now, it may appear that the doctor, in such cases, could assist the defense by proving his ability, but not in any case where he is being sued for damages, can he prove his reputation as a physician or surgeon, no matter how eminent or how successful he has been. In the good common sense of the law the doctor must be fairly and leniently tried, and in *all* cases he must not only have the opportunity, but he *must* be *proven* derelict in his duty, before he can be found guilty of malpractice. What is the neglect of one can not be the neglect of another as to the same cause; and the duty of the patient to the doctor is nearly or quite as important as the duty of the doctor to the patient. It would be an endless task, and in fact I could not enumerate in detail the cases in which the doctor would be liable. When the law is made it is within your province, and you must know, but again to be liable he must be principally at fault. What I mean by that is that some fault may be with the patient and yet the doctor may be successfully prosecuted.

I am unable to find but very few cases reported in the Supreme Court reports in which the doctor has been successfully sued. The reason I give and attribute to

the cause of this state of facts is, that the people of Illinois are very greatly protected from quacks and unskilled physicians and surgeons by the laws and its requirements necessary for a person to hold a certificate to practice medicine. I am, and must be, inclined to say that the laws of this State are very lenient toward the great body of professional men whom we term the doctor. I know of no profession that is more noble, more grand, more necessary and more calculated to do good, than the medical profession, and it needs all the protection it gets.

One thing in conclusion, and I will not detain you longer. I have been thinking for some time in the way of an organization to be known and termed the Medical Legal Organization. Its object will imply from its name that doctors and lawyers are to organize for their mutual benefit. It is not necessary for me to mention the different and many ways that the two professions could, by such an organization, be benefitted. I believe that the doctors and lawyers should be leagued together, for when a doctor is needed as an expert witness in a case he must be asked questions necessary to the issue, and ask them intelligently lest he may be entangled and embarrassed by trying to answer a question that is improperly put. Assist each other, have meetings and discuss points of interest to both, and I assure you there are many, in this way can an advance be made successfully that would enure greatly to our benefit. Would I be asking too much if I were to ask you to talk this more among your doctors and lawyers of your different homes, and have some one at your next meeting read you a paper on some of the lines I have indicated, and if I can in the future be of any assistance to you I am ready to render that assistance. I trust I have not taken up more of your time than I should, but this is my first attempt at Medical Jurisprudence, and I hope and trust I have not worn you out. If I have said anything that will assist you in the least I will feel that I have accomplished something for which I can feel grateful.

Nebraska State Medical Society.—The Nebraska State Medical Society closed its annual session in Lincoln, May 21, 1896. Many valuable papers were read and discussed. The officers elect for the ensuing year are as follows:

President—F. D. Halderman, Ord.

First Vice-President—J. L. Sutherland, Grand Island.

Second Vice-President—O. Grothan, St. Paul.

Corresponding Secretary and Librarian—H. B. Lowery, Lincoln.

Recording Secretary and Editor *Western Medical Review*—G. H. Simmons, Lincoln.

Treasurer—William Knapp, Lincoln.

The Society will meet again next year in Lincoln.

MEDICAL REVIEW.

EDITORIALS

L. T. RIESMEYER, M.D., Editor.

DEPARTMENT EDITORS:

DR. F. J. LUTZ, General Surgery.

DR. W. B. DORSETT, Gynecology and Obstetrics.

DR. E. C. RUNGE, General Medicine.

PUBLISHED UNDER THE AUSPICES OF THE
MEDICAL REVIEW ASSOCIATION

BY O. H. DREYER.

YEARLY SUBSCRIPTION, \$3.50. SINGLE COPIES, 10 Cents.

TO CONTRIBUTORS AND CORRESPONDENTS.

All letters whether intended for publication or not must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of the meetings of their respective societies, and of officers elected.

Members of the profession who send us information of matters of general interest to our readers will be considered as doing them and us a favor, and we shall take pleasure in inserting the substance of such communications.

Communications, Medical Books for review, and all letters containing business communications or referring to the publication, subscription, or advertising department of the REVIEW, must be addressed to O. H. DREYER, Publisher 112 N. 4th Street, St. Louis.

Entered at the St. Louis Postoffice as Second-Class Matter.

Fright as a Cause of Sudden Death.

Instances of sudden death, which can only be explained by a profound impression upon the nervous system—fright, have been observed by various surgeons. Cases have been reported where patients died upon the operating table while the surgeon was explaining the case to his class, before any anesthetic had been administered and where fright—shock—was the only plausible explanation for the occurrence.

That in many cases, where patients were not completely anesthetized, death took place in consequence of fright while the anesthetic was held responsible for the cause of death, is highly probable. Too little attention, we believe, has been paid to such sad and, perhaps, preventable phenomena and there is an abundance of material at our disposal for the substantiation of our assertion. Nor do we stand isolated in our opinion with reference to this question and we predict that the subject will soon receive closer attention in this as well as other civilized countries and we wonder that the matter

has apparently been so long neglected; a fact which illustrates, however, the tendency of inertia in even this electric age of surprises and comparatively rapid progress.

If proper and timely attention had been paid to this matter surgeons would take more precautions to prevent the frightening of their patients. It is a mistake, we believe, to bring a patient before a class of students shortly before he is to be operated, subjecting him, in many cases, to the additional annoyance of explaining his case to the students before, or while he is being anesthetized. As a rule, such a procedure could easily be avoided. If it be necessary, for the sake of the students, that the case should be examined by and explained to the latter, this should be done, if feasible, on a day previous to the operation, in a manner which would preclude the frightening of the patient. Precautions should be taken not to discuss a grave diagnosis and prognosis in the patients' native language—the European custom of making use of Latin phrases being, under such circumstances, a most commendable one. All unnecessary parading in white and ghost-like operating gowns should be avoided as one, in the case of some individuals, most potent factor of the general frightening process. Whenever it is feasible patients should not be anesthetized in the operating room, but should be carried in when they are completely under the influence of the anesthetic.

The custom of some surgeons of having a half dozen or more associates or students, in white gowns and with their shirt sleeves rolled up, stand around while the patient enters the operating room or while a simple operation as, for instance, a circumcision is performed before the patient is completely anesthetized, or shortly after he recovers consciousness, or while he is semiconscious, are important points which every operator is duty bound to take into consideration. The success of a surgical operation depends upon a conscientious attention to details of which those preventing an unnecessary nervous fear or excitement are by no means of small significance and should be carried out faithfully and thoroughly.

* *

Another illustration of how little attention has been paid to the action of fright upon timid, nervous or easily frightened individuals has been demonstrated by the apparently crude method of injecting diphtheria antitoxin by means of Koch's syringe. The large canula attached to the barrel of the instrument admits of a rapid infiltration of the subcutaneous tissue often producing a most excruciating pain. When this occurs the cupola of the cone produced by the injection looks fitted, in consequence of the greatly stretched trabeculae of the skin, and presents a white anemic surface which is also due to the intense pressure. In the case of Dr. Langerhans' child the pain and nervous excitement of the little patient is said to have been excessive and the explanation of the rapid extinction of life by shock—fright, was no doubt exceedingly justified and the most

rational interpretation of the rare phenomenon. The sight of the large canula of Koch's syringe alone would be sufficient to frighten a nervous child. Its introduction into the subcutaneous tissue alone must cause considerable pain; while the climax is reached upon an incautious, too rapid injection of the serum.

The admonition of Dr. E. W. Saunders, of this city, a most convinced advocate of diphtheria antitoxin, of using a fine canula for the injection of the serum, deserves universal notice. Dr. Saunders has devised a syringe which fulfills admirably the requirements of an instrument for the injection of diphtheria antitoxin. It consists of a glass cylindrical vessel closed by a doubly perforated rubber stopper from which emerge two metal tubes, one of which leads down to the bottom of the vessel while the other stops short a little below the stopper. To the latter is attached a rubber bulb by means of about four inches of rubber tubing. To the other metal tube is attached a rubber tube holding at its extremity a metal screw upon which the canula of a Pravaz syringe may be attached. This completes the instrument, by means of which a fine and constant stream of fluid, whose pressure may be easily regulated by a more or less frequent or intense compression of the rubber bulb, can be injected hypodermically without creating undue pressure upon the neighboring tissues. The instrument is a decided improvement upon Koch's syringe for the injection of diphtheria antitoxin and we hope that it will soon come into general use.

* *

Fright forms not an insignificant element in the production of nervous diseases and its significance as an etiological factor in disease as well as in the production of sudden deaths deserves more general attention on the part of all physicians; but its significance in surgical procedures should, above all, be more closely studied and discussed in order to eventually eliminate all preventable causes of unsuccessful issues in operations.

The impression upon the nervous system and its injurious after-effects in certain individuals forms one of the most pertinent objections to an indiscriminate adoption of Schleich's infiltration anesthesia. At the present time it is certainly doubtful whether the advantage of a local anesthesia over those of inhalation anesthesia will sufficiently outweigh the disadvantages that may be connected with the procedure. The employment of infiltration anesthesia in a somewhat protracted operation in which, for instance, a comparatively large incision, a number of sutures, and the tying of bloodvessels is necessary, may affect the nervous system of some patients to a degree that inhalation anesthesia would be, by far, the smaller evil.

The Sedalia Meeting of the Missouri State Medical Association.

The annual meeting of the Missouri State Medical Association at Sedalia was an unqualified success. The

program was so extensive that many papers could only be read by title. The following resolutions which were adopted at the meeting are of general interest:

"Resolved by the Medical Association of Missouri, That as the bill now pending in Congress entitled, 'A Bill for the Further Prevention of Cruelty to Animals' will, if enacted into a law, prohibit vivisection and experimental work of greatest import to humanity and to the preservation of valuable domestic animals, this Association most heartily opposes its passage.

"Resolved, That the Senators and Representatives in Congress of the State of Missouri be and are, hereby requested to use every legitimate means to defeat the passage of the bill.

"Resolved, That the Medical Association of Missouri indorses most heartily the efforts of the State Board of Health in its advancement of the standard of higher medical education, and that now and in the future we pledge it our most careful support."

The unanimous election of Dr. John H. Duncan for President is well deserved; the Association could not have made a better choice. Dr. Duncan is universally esteemed and liked and, in point of impartiality as well as other respects, appears to enjoy the confidence of all who know him. He is exactly the man who should preside over a representative body of physicians like that of the Missouri State Medical Association.

The Endorsement of a Higher Standard of Medical Education by the Missouri State Medical Association.

Anent the resolution adopted by the Missouri State Medical Association indorsing the efforts of the State Board of Health in its advancement of the standard of higher medical education, etc., we believe that our views in this question are pretty well known by this time. While we also indorse the laudable efforts of the State Board of Health, we believe that it is a great mistake to leave the decision as to whether a college is a "real" college and whether its diplomas should be recognized as equivalent to the education required by the Board for the entrance of a medical college of this State entirely to the judgment of the members of the State Board of Health, and the examination of diplomas to the secretaries of the various medical colleges. We believe that the only just and impartial way of determining whether a candidate for matriculation at a medical college possesses the required qualification would be the appointment by the State Board of Health or the Governor of the State of an examining committee consisting of one (for instance, the superintendent of public schools) or more representative citizens, who by their education and special vocation as teachers are best adapted to determine the quality of a college preparing students for matriculation at a medical college. We have on several occasions called attention to the excellent and most impartial method

of examining candidates for matriculation in medicine in the State of New York. A method which can not be too highly recommended for emulation. The Board of Regents who pass upon the standard of education of such candidates are appointed by the Governor of the State of New York and consist of men known by their merit to all educated citizens alike. A similar examining committee should investigate the credentials of students in this State or, in the absence of such credentials, subject the candidate to an examination equivalent to the requirements of the Missouri State Board of Health.

With all due respect for the members of the State Board of Health and their "good intentions" we are convinced that although theoretically the method adopted by the Board of determining the qualification of candidates for the study of medicine appears to be an excellent one, it is practically not near so efficient as it would be if our suggestion should be carried into effect of leaving the examination of diplomas, credentials or an equivalent examination to parties who are not physicians and who are, moreover, not connected with any medical college, in other words, to competent as well as disinterested judges.

While we are just as much enthused over the efforts of the Missouri State Board of Health in improving higher medical education as the Missouri State Medical Association, we would respectfully call the attention of the members of the Association to the above suggestions regarding the regulation of entrance requirements by the State and refer those interested in the question to the following editorials which have appeared in the MEDICAL REVIEW:

1. "Some Defects in the Requirements of the Missouri State Board of Health for the Matriculation of Medical Students and How They Can be Remedied." Issue of January 25, 1896, page 59.

2. "Problems in Medical Education." Issue of February 8, 1896, page 98.

3. "A Timely Investigation—The Good Work of the State Teachers' Association." Issue of March 28, 1896, page 220.

Cruelty to Animals.

It is a strange phenomenon that in an age where medicine and surgery have reaped their greatest laurels, celebrated their grandest triumphs and realized their most sublime hopes—that in such an age the very foundation of medical progress, the exact experiment upon lower animals—vivisection, should be opposed by a bill now pending in the Congress of this highly civilized country. The resolutions adopted by the Missouri State Medical Association, with reference to said bill, will meet with the most emphatic endorsement of every educated physician.

BOOK : REVIEWS

Books reviewed in this column may be obtained, post-paid, by addressing the publisher of this journal, and remitting the quoted price.

Obstetric Accidents, Emergencies and Operations. By L. CH. BOISLINIERE, A.M., M.D., LL.D., Late Emeritus Professor of Obstetrics in the St. Louis Medical College; Member of the Anthropological Society of Paris, France, etc. Profusely illustrated. Philadelphia: W. B. Saunders. Price, \$2.00, net.

This work is of peculiar interest to the medical profession, and it attracts our attention in more than an ordinary manner, from the fact that its production was the last earthly effort of the learned author. It seems eminently fitting that a work of such value should be the *finis* and climax of a long life of honor and usefulness. Dr. Boisliniere's experience has been second to none from a historical and practical standpoint. In his forty years of professional life he has been a witness and promoter of the development of the science and art of obstetrics from crudeness to perfection, and it almost seems that he had a presentiment of his dissolution which stimulated him to dedicate to "the practitioners and medical students of America" the practical lessons he had laboriously learned and garnered. Our admiration is increased when we realize that the labor bestowed on the book was after the author had passed his active days and when his venerability and poor health deserved repose.

We are very fortunate and must be congratulated that the author saw fit to present this substantial addition to obstetric literature, and we feel sure it will be a permanent memorial to the man long after the recollection of his personality shall have lingered and retired.

This is a worthy book by a great man.

Dismissing, with these few words, the sentimental thoughts which have occurred to us, we turn to a review of the work. It certainly fulfills in an admirable manner the purpose for which it was written. Only the accidents of the puerperal state are considered, and the arrangement is such that it is a valuable book for quick reference when an opinion must be formed on the moment. Normal labors have the happy faculty of taking care of themselves, or at least leading the observant accoucheur in the proper direction, but it is when the unexpected happens that the necessity for such a book as this is realized, and he who is a diligent student of its valuable contents will be able to respond to all emergencies. Everything which is in the least a departure from the normal is discussed, but the most interesting and valuable chapter is that devoted to the use of the forceps, on which the author was an authority. The

chapter on abdominal palpation and puerperal convulsions are worthy of special mention.

No one who undertakes confinement cases should be without this book. THOMPSON.

Scribner's Magazine. Charles Scribner's Sons, New York, publishers. Price, 25 cents a number, \$3.00 a year. The June number contains the following:

The Troubadours, painted by S. W. Van Schaick, is the frontispiece.

In the Balkans—The Chessboard of Europe, Henry Norman.

Two Sonnets—Peace—Speech and Silence, Edith M. Thomas.

The Evolution of the Trotting Horse, Hamilton Busbey.

His College Life, William DeWitt Hyde, President of Bowdoin College.

The Home Held to the Wanderer, Grace Ellery Channing.

Vailima Table-Talk—Robert Louis Stevenson in His Home Life, Isobel Strong.

In the Sun, painted by Theodore Robinson, engraved by Caroline A. Powell.

The Captor of Old Pontomoc, Mary T. Earle.

Limitations, Louise Betts Edwards.

A Letter to Town—Urban and Suburban Sketches, H. C. Bunner.

The Passionate Shepherd to His Love—Elizabethan Songs, drawn by J. R. Weguelin.

At St. Mary's, Harry C. Hale.

The Point of View; The Field of Art; About the World, Etc.

TRANSLATIONS.

BY EDGAR THOMPSON, M.D.

Peritoneal Adhesions as Causes of Painful Phenomena.—Dr. Bouquet de Jolinier has repeatedly investigated the symptoms of adhesions on the stomach, intestines and gall-bladder, and he has concluded that it is well to consider the possibility of adhesions in all complicated and rebellious troubles of those organs (*Jour. de Med. et Chir.*). There is no invariable characteristic symptom, and the real cause of the objective symptoms may be overlooked. Many cases of dyspepsia which resist medical treatment are due to a simple adhesion of the stomach to the abdominal wall.

Gastric adhesions are manifested by painful phenomena and, secondarily, by dyspepsia, vomiting, etc. Pain in the gastric region is a constant symptom, but it varies somewhat in its character. In general it is more a sensation of fulness than a true pain; sometimes the

pain is acute and intolerable. These symptoms come on soon after the ingestion of foods because the muscular contractions thereby set up disturb the adhesions; the pain generally increases in intensity for about an hour or two, when vomiting will occur and then the symptoms will subside.

The pain never occurs when the stomach is empty and at rest.

The exact location of the pain depends on the topography of the adhesions, and the pain will centralize about the adhesions.

A characteristic sign is the vomiting, which terminates the painful attacks; it occurs without any retching or nausea, and the vomit is composed of partly digested food. To the above symptoms may be added obstinate constipation, diminution in the quantity of the urine, and dilatation of the stomach. The general condition is bad in spite of the preservation of the appetite and absence of fever.

The following is an illustrative case: Patient had for two years suffered great gastric pain in the following manner: An unpleasant sensation of fullness occurred about an hour after eating; the sensation increased in severity for two hours when it became most acute. This patient had been treated without avail by a large number of noted specialists. The author suspecting the presence of inflammatory bands, performed a laparotomy and found extensive adhesions between the liver, stomach and transverse colon. The bands were very tough and non-yielding. A rapid recovery from the operation and cessation of the symptoms ensued.

Adhesions of the intestines also give rise to painful sensations, of which two varieties can be distinguished:

1. Those due to the displacement and tension of the intestines caused by the bands.
2. Those which are due to intestinal contractions, or, in other words, they are attacks of true intestinal colic of the same nature as hepatic and renal colic.

These pains are probably due to the restraints imposed on the intestines when vermicular movements occur, and to the greater or less constriction of the lumen at the site of adherence.

The symptoms set up by adhesions of the gall bladder are more complicated and difficult to distinguish. A certain number of observations have seemed to establish the fact that adhesions of the gall bladder can produce symptoms exactly analogous to those of true hepatic colic due to the evacuation of a calculi. The painful crises are intermittent, with maximum intensity in the right hypochondriac region, and are accompanied by vomiting. The duration of an attack may vary from moments to days. The author proposes the same treatment in both cases, however, in a laparotomy. In one the calculi can be removed, and in the other the adhesions severed.

In the author's experience the immediate and remote results of a surgical interference has been good.

MEDICAL SOCIETIES

PROCEEDINGS OF THE ST. LOUIS MEDICAL SOCIETY.

W. H. FUCHS, M.D., EDITOR.

Stated meeting, Saturday evening, April 11, 1896; the President, W. G. MOORE, M.D., in the chair.

* *

DR. HOWARD CARTER read a paper entitled

Tuberculosis in Cattle,

and presented specimens and microscopical sections.

DR. A. H. MEISENBACH had an opportunity of making personal observations in the matter of feeding and housing of cattle on the continent and could appreciate the low percentage of tuberculosis among cattle in Holland, as stated by Dr. Carter. In Holland the cattle are allowed to roam in the meadows, are fed on luxuriant grass, get plenty of pure air and water and are well housed. On the continent generally, however, cattle are housed in close quarters and are kept under the most unfavorable sanitary and hygienic surroundings. They are deprived of fresh air and sunlight, are fed on "slops" and "swill," and very rarely have an opportunity for pasturage, as the farms are so small that this luxury can not be provided. Of course, this condition prevails only in the smaller provinces in Southern Germany, along the Rhine. No more excellent sanitary condition in dairies prevail anywhere than in the large European cities, as in Berlin, for instance. The slaughtering houses, too, are models of cleanliness, and the sanitary supervision is perfect.

The comparative statistics would tend to prove that tuberculosis is prone to exist and develop in cattle under conditions similar to those in which many of the human race are subject to it, i. e., poor food, impure water and poor hygienic surroundings.

The importance of the subject under consideration can not be overestimated, and Dr. Carter is to be congratulated on his painstaking efforts. He should be encouraged in his work, and probably the interest, such as he manifests in the subject, may lead to a general interest and the framing of national laws that will control the conditions under which cattle shall be kept and slaughtered, and the meat and milk handled, shipped and sold to the public at large.

DR. I. N. LOVE felt guilty, as most members of the profession in St. Louis should, of having neglected a very important duty and obligation which he owes to the community, at least to the children. Those of us who have not realized the true importance of the subject before now, are being awakened to the fact, thanks to the efforts of our efficient and energetic public health officers.

The fat, sleek, well-nourished condition of tubercu-

lous cows is a very peculiar feature, but may serve to put us on our guard and to examine more carefully into the true condition of an animal before using any part of it as food. We do not allow a mother with tuberculosis to nurse her child under any circumstances, and we should be correspondingly careful in selecting milk from a healthy cow, as it is difficult to detect the microorganism in the milk itself. If a child has gastro intestinal disturbance and one of the bacilli should attack a sensitive mucous membrane it may produce incalculable harm. A great many children die of gastro intestinal lesions, but we do not know how many of these are of a tubercular nature, owing to the few autopsies performed in private practice.

For years past we have been feeding our tubercular patients hydro-carbons from tubercular conditions, thinking that we were antagonizing tuberculosis, where as we were in reality producing a surfeit of fat, the most vulgar tissue of the body. Besides, the cod-liver oil and kindred remedies are apt to interfere with assimilation by disturbing the stomach and alimentary canal. We have now come to the conclusion that we must use other foods, such as albumen and cereals. In fat persons there is an interruption of the proper equilibrium and of the proper nutrition, which in itself is a foundation for disease. We have an illustration of this in the frequency with which fat people develop diabetes, which is a disease related to impaired metabolism.

But the matter of getting a supply of good, pure meat and milk is a very important one. To be sure, we may sterilize the milk by boiling it; we kill the germs in this way, but we may also "kill" the milk. Milk taken directly from the mother or cow is supposed to contain certain living elements, cells that go directly into the circulation without having to be digested, and they form an important element of nutrition. When the milk is sterilized these cells are destroyed or converted into matter which must be digested before it is assimilated, just like all the other component parts. In this way the digestive organs are burdened by boiling milk, and the object should be to get a pure supply so that sterilization will not be necessary.

DR. AMAND RAYOLD called upon Dr. Charles Ellis, a veterinary surgeon, who was present, for a few remarks.

DR. ELLIS said tuberculosis in cattle is a subject which has attracted a great deal of attention of late. He had spent two years in the schools of Germany, and in Berlin he attended the clinic of Professor Eggeling, who had charge of the dairies in and around that city. He was there during the prevalence of the foot and mouth disease.

Tuberculosis in cattle is a grave subject which threatens the country. It exists more generally than we have any idea of, and it is difficult to determine from external appearances of the animal, as an affected cow may be fat or thin. When the disease has progressed far the cow would be thin and the tubercle bacilli would be found in very large numbers but in mild cases, of course, they are not so plentiful, although speaker has

demonstrated them in milk where only a few lymphatic glands were involved.

The cattle most prone to tuberculosis are those that are confined in stables, housed up under bad sanitary regulations. They are seldom found on farms where they are properly kept, unless the disease results by contagion from infected animals. While speaker was connected with the Inspector's station in Virginia, a prominent planter of Blacksburg received some fine Jersey cattle which were tuberculous, and all the neighbors came in to breed their stock with this fine cattle. Of course, the tuberculosis was spread, and these cattle roamed about the mountain.

The subject has happily come to a focus in St. Louis. When speaker first came here four years ago, Drs. Dettmar and Lange had established a dairy and combined with it a careful inspection of all cattle from which they derived their milk supply, thinking it would be an advantage that the people would appreciate. Speaker was employed to do the inspecting and made trips into the country for the purpose. They did not meet with proper encouragement and were obliged to discontinue.

In Europe the worst place for tuberculosis is Norway. It does not exist as extensively in other parts of the country as might be imagined, and speaker was inclined to disagree with Dr. Meisenbach, as to the condition of the dairies. Although they do not turn their cattle into large fields as in Holland, the cattle are kept very clean and are turned into open lots for pasturage.

Tuberculin is being used in Norway, and it has been a great boon to veterinary surgeons everywhere ever since Professor Koch discovered it. Speaker had had a great deal of experience with it and it has proved a great success, tuberculosis having been found in every case where tuberculin produced a reaction.

The subject of meat inspection should be taken up carefully. Meat inspectors are not practical men in almost every instance; they are butchers and could tell a round steak or porter house, but they do not know the slightest thing about pathology. They have no idea whether an animal was diseased or not; they might guess it but they do not know definitely. The inspection bill should have passed; it is needed badly. Animals should be inspected on the foot, the diseased ones slaughtered and the meat thoroughly disinfected and sterilized before it is sold.

The slaughter house in Berlin is under the control of fifteen veterinarians employed regularly, who examine thoroughly every animal that is slaughtered. All hogs are examined for trichinæ. It has been found that trichinæ do not exist so extensively in America, but there is an abundance of tape worm and tuberculosis.

DR. JOHNSTON asked Dr. Carter whether the animals from which the specimens were obtained had been confined in stables, and whether they had been fed on slops?

DR. CARTER said they were allowed free range at the grounds of the Institution, which covered from two to

three hundred acres. They had an abundance of pasturage so that there was no necessity of feeding slops.

DR. ARTHUR MINK said, although a great many theories had been exploded during the past hundred years, we are doubtless moving in the right direction in this matter of tuberculosis. One phase of the question of infected meat, which deserves more careful consideration, is the danger lurking in much of the sausage manufactured from beef and pork. It is well known that a great deal of diseased meat is made into sausage, whether it has been condemned or the animal has died of tuberculosis seems to make little difference.

Five years ago speaker attended a sausage manufacturer who had infected himself from the meat by repeated cuts. It was the worst case of miliary tuberculosis ever seen by the Doctor.

DR. AMAND RAVOLD had just finished reading the report of the International Meeting of Veterinarians, at Bern, Switzerland, where the subject of tuberculosis was thoroughly discussed, and finds that they have arrived at several important conclusions. First, They conclude that tuberculosis in man and in cattle is due to the same micro organisms. Second, That the disease is contagious from cattle to man. Third, That the disease is contagious from cow to cow. Fourth, That tuberculin is very valuable for diagnostic purposes, and that it indicates the presence of tuberculosis in cattle that appear healthy otherwise.

The Health Commissioner of this city, Dr. M. C. Starkloff, has succeeded after much hard work and many reverses in having a dairy inspection bill passed, which is exceedingly valuable. This Society should assist in this direction in every way possible. We should in time have a State law and a State veterinarian should be appointed, and power should be vested to inspect all dairies engaged in shipping milk into cities. A law of this scope exists in Washington City, and no milk is received unless the dairies from which it comes have been thoroughly inspected.

For some time speaker had an idea that tuberculosis was more prevalent among the high-bred, well stabled and well nursed cattle, such as the Jerseys, but the report of the International Committee is contrary to this view. They report that tuberculosis was introduced among the cattle of this country by breeding foreign stock with our herds. Fully ten per cent of our cattle has become infected, and the proportion of infected cattle is even greater in the Eastern cities. Whenever one tuberculous cow is introduced into a herd the disease is communicated by direct contact.

Older people are pretty well able to digest the tubercle bacilli, but children are infected by the milk by trouble created in the intestinal canal.

DR. W. G. MOORE asked Dr. Ravold for the difference between sterilizing and Pasteurizing milk, and how he would direct a mother to prepare it?

DR. RAVOLD said the object in sterilizing milk is to kill all living organisms and also the spores, so that the milk will not sour. To do this it must be heated to

212° F., or a little higher, for at least an hour, and under slight pressure—about half an atmosphere. This process destroys the nutritive value of the casein and caramelizes the sugar. In Pasteurizing milk it is raised to a temperature of 170° F., and kept at that stage for about twenty to thirty minutes. This does not destroy all the micro-organisms; the micro-organisms that form spores are not destroyed, they continue to grow and the milk will turn sour.

A practical method of Pasteurizing milk is to place a bucket of water on the stove and heat the water to the boiling point, care being taken that the water is boiling all through. A quart bottle of milk is then placed into the boiling water, which has been removed from the fire, but the bottle must be well surrounded by the hot water as high as the milk. After thirty minutes of immersion the Pasteurizing process will have been completed.

DR. HOWARD CARTER thought that the presence of consumption among our Indians may have a bearing on this subject. The disease is almost exterminating the race, and this may be due to the habit of the Indian of eating in the raw state scraps of meat gathered at slaughter houses.

DR. LOVE.—How do you account for the fact that the negroes are dying off in the same way?

DR. CARTER said there are other bad habits that the negro is subject to, that are equally as destructive.

The remarks of Dr. Ravold, in regard to the sterilization of milk, are well taken. There are 125 or 130 dairies in this city where the cows are kept indoors—not taken out at all—and the stables are poorly ventilated and unsanitary.

ABSTRACTS

MEDICINE.

The Infectious Nature of Rheumatism.—F. Rowland Humphreys (*Med. Press and Circ.*). The author's hypothesis is this:

The poison of acute rheumatism is one which may manifest its presence in a number of ways, of which rheumatic fever is only one, though the severest, form.

The general characteristics of acute rheumatism are a tendency to relapse, to recurrence, and to a rapid abatement of symptoms under the use of the salicylates. Along with these symptoms go the tendency to cardiac complications, to chorea, and to minor disorders.

This paper is based on notes which covers about 240 cases of illness in some 160 different persons. Of these, 39 were rheumatism of the subacute or acute type; 78 tonsillitis; 32 pharyngitis; the balance of the cases closely resembling acute rheumatism in their signs and

symptoms, including some cases of erythema and urticaria.

By the above facts, the author was led to regard these cases as closely allied to infections, and that these rheumatic complaints are most likely the means by which the disease is transmitted, taking the character of an ambulatory attack whereby the germs, which the author assumes causes the disease, are distributed, developing an acute rheumatism in some persons, as one of the minor complaints in others, but with a tendency to interchangeability of character in the same or different individuals; the rheumatic poison being at one time shown by a skin eruption, at another by a joint affection, at a third by an attack of pharyngitis or tonsillitis.

Phthisis is a disease to which rheumatism may be very closely compared. Phthisis has its skin, throat, lung, abdominal, and joint affections, which might well have been considered to be separate affections but for the advancement and development in recent years regarding diagnosis and accurate study of cases. Nowa days we search for the bacillus where the characteristic appearances are absent. It may be said that acute rheumatism has no characteristic appearance—only characteristic localities—and until we find out the germs that seems to cause the disease it will be impossible to say absolutely what is and what is not a rheumatic lesion.

The writer cites 5 cases showing the occurrence of the minor complications (*i.e.*, tonsillitis, pharyngitis, and erythema) in the course of a severe attack of acute rheumatism.

Dr. Haig-Brown has pointed out the very close connection which exists between tonsillitis and rheumatism—the tonsillitis being specially of the follicular variety.

Dr. Cheadle and Prof. Osler, of Philadelphia, are quoted as agreeing with him in the view that valvular disease of the heart was often accompanied by follicular tonsillitis.

The author remarks that when acute rheumatism is preceded by an acute throat attack, usually one attack terminates before the other begins; often a week or more intervening between one attack and the other, giving the appearance of a relapse rather than of a consecutive illness.

The author goes on to show that each of the minor complaints he has enumerated as accompanying acute rheumatism may immediately precede an attack of it in another person, either in the same or in another form of the complaint after the period of incubation corresponding to a period extending from seven to twenty-one days.

A series of cases is mentioned showing how the disease has gone from one person to another. Here is one of the series:

The mother, in November, had a mild attack of a rheumatic nature. Early in January a daughter had an acute attack of tonsillitis, with erythema, endocarditis, and acute rheumatism. A lad staying in the house (who had previously had an attack of acute rheumatism) three

weeks later had a subacute attack of the same complaint. In May a lady visiting in the house had an attack of pharyngitis, and at the same time one of the servants had one of subacute rheumatism. At the end of the same year another servant had a mild attack of rheumatism, and three weeks later the mother had an attack of herpes following the course of the post-auricular nerve. Quite recently she has had an attack of endocarditis with cerebral embolism.

This is an instance of a disease appearing time after time in the same household, two or more persons being attacked at the same time.

The author further states that herpes, in one form or another, seems to be no uncommon occurrence in persons who are subject to attacks of a rheumatic nature, either at the same or at different times.

Another complaint is perityphlitis, found under similar circumstances. The author has observed that nearly every case of tonsillitis has some degree of tenderness in the right iliac fossa. Dr. Beverly Robinson is of the opinion that appendicitis is closely connected with rheumatism and yields readily to the salicylates.

The paper closes by asking whether these cases do not in a measure show that these throats are in reality a manifestation of the presence of the rheumatic poison circulating in the system. Does it seem very far-fetched to say, then, that rheumatic fever itself is an infectious disease and that these throats spread it?

Meniere's Disease.—In the *Presse Medicale* for March 21, Dr. Heller relates the history of a curious case of this disease which followed a leucemic alteration of the auditory nerve (*N. Y. Med. Jour.*). It is the first time, he says, that a case of this kind has been mentioned in medical literature. The patient, a man, 60 years of age, had always had perfect health until the year 1894, when he began to be troubled with pains in his head and a feeling of extreme lassitude. During the month of June, 1895, he was taken suddenly with a very intense vertigo and buzzing in the ears, after which he became unconscious. When he regained consciousness he found that he was almost completely deaf, and two weeks later the sense of hearing was entirely gone. From this time the patient was obliged to remain in bed, and the attacks of vertigo reappeared with such violence that he had to be sent to the hospital, where the physician diagnosticated the case as one of chronic leucemia in the myelo-splenic form.

An examination of the blood showed that there were 2,600,000 red blood-corpuscles to 800,050 leucocytes—a proportion of one to four. Besides these there were a large number of elements containing a single nucleus, lymphocytes, "medulloceles," and some red globules which were isolated and provided with a nucleus. The spleen was enormous, and the liver also was considerably enlarged. There were very extensive blood effusions.

An examination of the ear revealed the following changes: The membrane of the tympanum had lost

its transparency; it was dull and shriveled. A tuning-fork was placed on the patient's head, but the vibrations were not heard with the left ear at all, and only in a very feeble degree with the right ear. No sounds, however loud, could be heard with the left ear. An electric current of from fifteen to twenty milliamperes did not provoke the least sensation of vertigo.

The patient died on September 8. The autopsy confirmed the diagnosis of leucemia of the myelo splenic form complicated with suppurative leucemic effusions.

The two temporal bones and the medulla were submitted to a very careful examination. The bulb and the auditory nerve revealed the following changes after having been treated by Weigert's method: At a number of points along its course the nerve showed more or less extensive lesions of leucemic infiltration, which were characterized by the presence of small cells. Near its point of emergence, and especially at the junction of its two roots, the same nerve was very greatly infiltrated; there existed, besides, near the neighboring pia mater, a thickening which was due to the presence of a microcellular infiltration. The fibres of the auditory nerve showed traces of degeneration in certain points along their course, but the nucleus of origin was exempt.

No pathological changes were found in the corpora quadrigemina or in the cerebellum, and it was not possible to discover, at any point whatever, hemorrhagic lesions or traces of bloody effusions. An examination of the labyrinth gave only negative results.

This case, says Dr. Heller, is the only example known in which Meniere's disease was provoked by a leucemic process localized in the trunk of the auditory nerve.

Infective Endocarditis in Tonsillitis.—Charrin (*Sem. Med.*) reports the following case: Male, aged 18, for the last three months had been growing rapidly in height. Had been at work up to a few days before admission into hospital; then he was emaciated and very pale. Temperature 104° F. to 105.4° F. He had dyspnea, broncho-pneumonia patches in the right lung, liver and spleen rather enlarged, slight albuminuria and muffled heart sounds; right tonsil moderately swollen. Diagnosis: infective broncho-pneumonia, possibly influenzic, following tonsillitis. Treatment: digitalis, quinine, and salol in equal parts of rum and lime juice, frequent oxygen inhalations, dry cupping over the thorax, and when the patient became worse general bleeding. The latter was performed in order to get rid of some of the toxins circulating in the blood, and was followed by an improvement, but this did not last, and he soon died. Post mortem examination: Liver fatty, spleen soft, broncho-pneumonic patches in the right lung; heart, exuberant vegetations on the pulmonary valves. In the broncho-pneumonic patches and the valvular vegetations staphylococcus aureus was present, which had been found during life swarming on the exudation over the tonsils. These are the same organisms which Bouchard has isolated from

the lesions of chronic and subacute rheumatism, so often preceded by tonsillitis. The organisms were probably able to become generalized in this case owing to the anemic feeble condition of the patient.—*British Medical Journal*.

Practical Testing of the Anti-Erysipelas Serum.—The Paris correspondent of the *Medical Press and Circular* states that Dr. Chantemesse has recently reported on the treatment of 501 cases of erysipelas by serum prepared by the Pasteur Institute, with a mortality of only 2.59 per cent (*Jour. Am. Med. Ass'n*). The effects of the serum are both local and general. Locally, at the end of twenty-four hours, a marked decrease of the redness, swelling and pain, is observed. Desquamation sets in at an early hour consisting of thick epidermic scales. Sometimes the lesion continues to spread but is arrested by repeated injections. Suppuration is very rare and where it existed before the treatment it is considerably diminished by the injections. The general condition of the patient improves rapidly a few hours after the injection; if the dose is sufficient the patient experiences a *bien être* well marked; the nervous disturbance and particularly the delirium are favorably influenced. The fever abates rapidly, to disappear altogether at the end of the second day, while the pulse diminishes in frequency and increases in strength. Where albuminuria has already set in, the injections cause it to disappear within forty eight hours. The gravity and the duration of the affection are diminished by the serum treatment. The ordinary doses of serum varies between six and ten drams.

Kitasato's Work in 1895 in Serotherapy.—Kitasato has collected from reliable sources 26,521 cases of diphtheria in Japan previous to serotherapy, with 14,996 deaths (56 per cent); while of 353 cases treated here from November, '94, to November, 25, '95, there were only 31 deaths (8.78 per cent). There is reason to believe that the mortality can be lowered if the treatment could be commenced early in the course of the disease. Thus in 110 cases in which injections were made within forty eight hours after the invasion all ended in recovery. On the other hand, of thirty-three cases treated after the eighth day of the disease eleven were lost. Some of the patients were brought into the institute in a moribund condition, and six children died within five hours after admission, six more within ten hours; altogether twenty one cases (two-thirds of the total mortality) were lost within the first twenty-four hours. As to the effect of the serum on the course of the disease the first to be noted is:

1. The fall of temperature; in many cases the deferescence was almost critical, and, it takes place usually at the end of twenty-four to forty eight hours.
2. The separation of the false membrane, which takes place as a rule after the return of the temperature toward the normal. Very large casts of the trachea and larger bronchi have been coughed up.

3. Urticaria-like eruptions were observed in very many cases, being in some quite severe and annoying. They, however, disappeared in a few days without any treatment.

4. In four cases marked albuminuria was observed at the time of admission. In these cases albumin disappeared from the urine in the course of the treatment. Pyrexia was accompanied by albumin in the urine, but there was no reason to believe that any renal trouble was caused by the injections.

5. Five cases developed paresis of the soft palate. I wish to note, in conclusion, that microscopic as well as culture examinations were made in every case, and Dr. Kitasato's report only deals with those cases in which Loeffler's bacilli were demonstrated to be present.—DR. NAKAGAWA, in *London Lancet*.

SURGERY.

Spinal Puncture.—Lenhartz (*Munch. Med. Woch.*, February 25, 1896) begins a paper on the diagnostic and therapeutic value of this procedure. He has never seen any irritative manifestations after death when spinal puncture has been practiced during life. He has made 150 positive punctures in 85 cases. The author punctures immediately in the middle line, with a slight upward direction in adults. He never required an anesthetic. The fluid is clear in cerebral tumor, apoplexy, or in acute tuberculous meningitis; it was only occasionally turbid in the last-named affection. It was red in hemorrhagic pachymeningitis and in injuries, thick and purulent, seropurulent, purulent and blood-stained, or even clear in epidemic meningitis. Larger quantities of albumen occurred only in inflammatory states. The average amount of fluid drawn off was 20 c.cm. The author looks upon the procedure as harmless when practiced with the necessary care.

1. Tuberculous meningitis. The author has punctured 14 cases, and in 12 fluid was obtained. Only once were tubercle bacilli found in the exudation. A temporary beneficial effect was noted on several occasions, and the author gives details of 3 such cases.

2. Out of 4 cases of cerebral tumor only 1 patient obtained benefit. In 1 case death ensued seven hours afterwards. The author does not discuss the question whether the puncture accelerated death in this case, but he does not altogether agree with Fuerbringer's advice not to puncture in these cases, supposing any benefit is to be obtained. He adds, however, that he would limit the employment of puncture in cerebral tumor. In 11 cases of apoplexy 14 punctures were made. Some suffered from pains in the head and limbs, but no improvement resulted from the puncture. The fluid varied from 8 to 45 c.cm. The author relates 3 cases of chronic serous meningitis in which puncture was adopted on several occasions. Benefit apparently ensued, and none of the cases died.

3. Cerebrospinal meningitis. In 2 cases no fluid could be obtained; both recovered. In 3 fatal cases abundant fluid was contained, and the diplococcus was demonstrated in it. The fluid was serous in one, thin and blood-stained in the second, and thick and purulent in the third case. In a further case no micro organisms were found in the fluid during life, but the streptococcus was demonstrated in the fluid from the ventricles after death.

The author then gives details of 5 cases of acute serous meningitis, which were punctured. The patients either recovered, or were on the way to recovery, at the date of the report.—*Brit. Med. Jour.*

Dislocation of the Spine and Consequent Hyperpyrexia.—The following case of the above-named complication is given by Dr. C. Lambette in *La Presse Medicale Belge*. A female, aged 40 years, was brought to the hospital at Schaarbeck, who had fallen back in the course of her work from a height of five feet, striking a solid horizontal bar about the region of the kidneys. Her health previously was invariably fine. The fall produced a luxation between the sixth and seventh cervical vertebræ, showing the spinal marrow, as the autopsy disclosed a complete diastasis of the two vertebræ. The lower limbs and muscles of trunk were completely paralyzed, pulse 120, respiration exclusively diaphragmatic. The unusual feature of the case was the sudden and excessive rise of temperature. One-half hour after accident it was 98 degrees. In twelve hours it was 102 degrees and in twenty-four hours it rose to 109.5 degrees when death ensued. Dr. Lambette draws the conclusion from it that there must be some nerve center in the region of the sixth or seventh vertebra which acts with great energy to control or modify the temperature of the organism. Destroyed by some lesion this center ceases to act as a moderator of the temperature, which then rises unchecked, as is proved by the hyperpyrexia following this accident so immediately and to such an excessive extent. No possible infection could have occurred in this case and consequently it proves that fever is not necessarily of microbial origin, but may result from some lesion of a calorific nerve center.—*Jour. Amer. Med. Ass'n.*

Contributions to the Surgery of the Liver and Gall-Ducts (Abscesses of the Liver).—Hermes, Berlin (*Deutsche Zeits. f. Chir.*), reports four cases of abscess of the liver, which were admitted to the Moabit Hospital, Berlin. Two of these cases were reported by Sonnenburg in 1894. In addition he reports two cases of choledochus stones, and one case of enormous thickening of the walls of the gall-bladder, which necessitated the performance of cholecystectomy.

In the first case the abscess developed a few months after a perityphlitis. There is no doubt that a purulent process about the appendix gave rise to a secondary abscess of the right lobe of the liver. After the abscess healed, the patient refused to have the diseased appen-

dix excised. Had the appendix been removed at the first attack, abscess of the liver would not have occurred. The case is remarkable because the abscess was single; as a rule we find multiple abscesses after perityphlitis, as a result of pyelophlebitis, which invariably cause death. Still, abscesses of the liver from perityphlitis are rare.

On examination a large number of Frankel's diplococci were found. They have also been found in perityphlitic pus.

In the second case, gall-stones caused the abscess of the liver. It is very likely that in this case the stones developed in the liver itself, and a very wide duct was present.

The author speaks of the danger of exploratory punctures, which may give rise to infection of the peritoneum. As far as the operation is concerned, if the liver is adherent to the abdominal walls, it is opened as any other abscess. If adhesions are absent, we must prevent infection of the peritoneal cavity by shutting it off by some method; in his own case iodoform tampons were used for thirteen days till the adhesions were firm. If high temperature or rapid failing is present, such delay is injurious.

Turning to the two cases of stones of the ductus choledochus, the diagnosis was made without difficulty. The diagnosis was confirmed by the operation. The second case died.

In the first case the stones were broken by the fingers and pushed into the duodenum. This is the ideal operation, is attended by the least amount of danger, and can be performed most rapidly. This can be done if the stones are not too hard and if there is a certain resistance in the walls of the ductus choledochus; otherwise it is dangerous.

In other cases it will be necessary to open the gall-bladder and to endeavor to extract the stones from this point, or directly incise the choledochus and, after removal of the stones, suture the wound. This was done in the second case. Here the enormously dilated duct was looked upon as the gall-bladder; in fact, however, it was found post mortem that the gall bladder was very small, and was hidden under the liver. In this complicated condition the whole wound-cavity was tamponed with iodoform gauze. After thirty-six hours, severe collapse set in, which was accounted for by a prolapse of intestine. Forty-eight hours after the operation the patient died. Peritonitis was absent; but the entire small intestines, and the ascending colon were filled with thin fluid blood. The patient died from a hemorrhagic diathesis, which is the most dreaded complication of icterus gravis.

The last case is interesting from a differential diagnostic standpoint and on account of the marked changes from which the gall bladder suffered, caused by a chronic inflammatory process. The patient had a dilated stomach, and this, in connection with other symptoms, pointed to a tumor of the stomach; besides the patient had been operated upon for carcinoma of the uterus a

year before, and this may have led to the suspicion of metastasis. Still the diagnosis of disease of the gall-bladder was made, on account of the location of the tumor and the attack of icterus and colic.

The gall-bladder was found enlarged, and its walls thickened to about 1 cm. On microscopic examination malignancy was discarded. In all probability cholelithiasis was the cause of the chronic inflammation, although larger stones were not found, but some gall-gravel was present at the operation.—*Amer. Med. Surg. Bulletin.*

Laparotomy in Tuberculous Peritonitis.

—Gatti (*Gazz. degli Ospedali*, April 4, 1896) has experimented on guinea-pigs, dogs and rabbits. In these animals the parts first and most attacked are the great omentum, the gastro-hepatic and gastro-splenic ligaments. In guinea-pigs the caseous form predominates, in dogs the fibrous, in rabbits the mixed. In guinea-pigs a thickening of the great omentum below the stomach is soon observed; in dogs and rabbits there is (1) a stage of miliary tubercle; (2) confluence of the tubercles with great increase in thickening of the omentum; (3) the stage in which the omentum becomes tumefied. Laparotomy has no effect when the tubercle is not yet developed or in an early stage. In the first three to five days after laparotomy the tubercle does not present any macroscopic modification, but a small quantity of reddish serous fluid is found in the peritoneal cavity. From seven days to almost a month after the operation the tubercles are almost found to be increased; only after about a month do they begin to show a diminution. In many animals this decrease was only macroscopic; in others microscopic as well. Histologically from eleven to twelve days after the laparotomy there is no increase of the lymphoid cells; no phagocytosis in guinea-pigs; in dogs the phagocytosis is about the same as was found at the time of the operation, but there is no karyokinesis. There is no development of fibroplastic cells as described by various authors. The result of the author's observations is that healing takes place by degeneration of the epitheloid cells, independently of phagocytosis, without the formation of new connective tissue, contrary to what had been previously pointed out by many authors. As to the factors which stimulate this process, the author directs attention to the serous fluid found, one, three, and five days after the operation, which seems to saturate the tuberculous mass, exerting a bactericidal and attenuating action on the bacilli.

N. K. Vassilevsky (*Arch. de l'Inst. Imper. de Med. Exper. St. Petersburg*, 1895, Tome IV, No. 3, p. 263) has also experimented on this subject. Several rabbits were injected with a pure culture of Koch's bacillus; an artificial tuberculous peritonitis having thus been produced, laparotomy was after a time performed. The authors conclusions are: (1) The operation alters the histological character of the tuberculous growth in that an increase of the epitheloid cells takes place in them,

and diminishes at the same time in the tuberculous granulations the number of the white elements. (2) The laparotomy checks the general dissemination of the tuberculous process. (3) The operation reduces the number of the Koch's bacilli in the tuberculous granulations, and promotes the resorption of the products of the decomposition which took place in the tuberculous granular growth previous to the operation.—*Brit. Med. Jour.*

Callateral or Uncrossed Hemiplegia.—Lederhose's (*Archiv f. Klin. Chir.*) attention was drawn to this subject by an unfortunate experience with a case of collateral hemiplegia caused by intradural hemorrhage. He suspected that the hemorrhage was on the side opposite the paralysis, but trephined unsuccessfully. Autopsy revealed the true state of affairs.

A man 38 years old was assaulted and became unconscious, bleeding from both ears. The following day, however, he attended to his work, still complaining of headache and weakness. This increased, and on the ninth day he went to bed and consulted a physician. On the tenth day he became somnolent, and on the eleventh the right side of his body was paralyzed.

The author saw the patient on the twelfth day after the assault. Deep coma and stertorous respiration were observed, conjunctival reflexes absent, pupils neither contracted nor dilated, and reacted but faintly to light; the pulse was 80 and irregular. There was paralysis of the right side of the face, and very marked paralysis of the right extremities; anesthesia; tendon reflexes absent. Examination of the head and ears revealed absolutely no sign of an injury.

The author diagnosed laceration of the middle meningeal artery with a subsequent extradural hematoma, and decided to trephine on the opposite side; that is, on the left. He chose both areas recommended by Kronlein for the exposure of hematomas of the dura mater. There was no blood between the dura and bone, the dura itself was tense, and did not pulsate, no underlying clot, and a fine puncture revealed the brain lying immediately beneath. He then suspected a hemorrhage or a pathological condition of the left hemisphere and did not proceed any further to find the cause of the cerebral pressure. Twenty-four hours later the patient died.

AUTOPSY.—No injury of the soft parts or bones of the cranium was revealed; no blood between the dura and bone. Under the right half of the dura a considerable collection of coagulated blood was present, generally spreading into the right cranial cavities; on the anterior half of the right hemisphere an isolated clot of blood, the size of a hen's egg, was found. In all, there were about 100 c. c. of blood. On the left side only a slightly discolored condition of the pia was found. In the substance of the brain small extravasations could be seen. The source of the right sided hemorrhage could not be made out.

The hemorrhage was undoubtedly due to the previous assault. The extravasation must have been small

in the first week and diffuse. The onset of the severe pressure symptoms was due most probably to a renewed profuse hemorrhage. Had this case been trephined on both sides, he would have undoubtedly recovered.

The author reviews the reported cases of collateral hemiplegia as found in literature, and this would show that any lesion of the brain can exceptionally cause collateral hemiplegia. If in cases of intra cranial hemorrhage, with hemiplegia, trephining is indicated and the collection of blood is not found on the side opposite to the paralysis, then it will be advisable to trephine on the paralyzed side as well.

He draws the following conclusions:

1. In all kinds of brain lesions with following hemiplegia, this may be exceptionally collateral or uncrossed.
2. Dilatation of the pupils or unilateral choked disk on the hemiplegic side may lead to the diagnosis of a collateral brain lesion or hemorrhage.—*Amer. Med.-Surg. Bulletin.*

NOTES AND ITEMS

Hyperidrosis.—An alcoholic solution of formalin of the strength of from ten to twenty per cent, will speedily check excessive sweating. Tannoform is a mixture of formalin and tannin, and dusted on the affected part acts very favorably in cases of hyperidrosis or bromidrosis.

The Republican National Convention, St. Louis, Mo., June 16, 1896.—For this occasion the WABASH RAILROAD has reduced the rate from all stations to St. Louis to one fare for the round trip. For particulars as to dates of sale, limits, etc., call on or address nearest WABASH ticket agent, or C. S. CRANE, Gen'l Pass. and Tkt. Agent, St. Louis, Mo.

Death of Dr. Joseph Bauer.—Dr. Joseph Bauer, a well-known physician of this city, and the son of Dr. Louis Bauer, died suddenly in consequence of chronic Bright's disease, at the age of forty-two. The untimely death of the Doctor, who leaves a widow and four children, has been a sad surprise to those who knew him intimately enough to appreciate his many good qualities.

Dr. Love's Daughter Seriously Ill.—It is with much regret that we learn of the serious illness of Miss Delphina Love, the only daughter of Dr. I. N. Love, of this city. The local physicians attending Miss Love have diagnosed her case as appendicitis. While going to press we are informed that Dr. L. S. McMurtry, of Louisville, Ky., has been called to St. Louis in consultation with the attending physicians. We sincerely

hope that Miss Love, who is a most popular young lady in St. Louis society, may soon and completely recover.

The North Missouri Medical Association will meet at Moberly, June 16 and 17, 1896, at 2 P. M. The following is a list of papers which will be read:

"Treatment of Diphtheria, with Special Reference to the Use of Antitoxin," by L. W. Dallas, Hunnewell.

"The Usefulness of Obstetric Forceps," by B. Hughes, Dalton.

"Therapeutic Value of Creosote," by E. Houston, Stanberry.

Paper, subject unannounced, by Edward Borok, St. Louis.

Paper on "Ædoelogy," by G. O. Cuppidge, Moberly.

"Some Observations on Hot or Cold Local Applications," by T. F. Martin, Brunswick.

"President's Address," 8 P. M., first day of Session, by J. J. Norton, Monroe City.

"Intestinal Auto-Irritation and Infection," by J. D. Brummall, Salisbury.

"Ascites" by Calvin C. Hurst, Salisbury.

"Typhoid Fever" by S. M. Brown, Monroe City.

"Cholera Infantum," by J. H. P. Baker, Salisbury.

Paper, subject unannounced, by H. C. Crowel, Kansas City.

Other papers of interest will be read on subjects not yet announced.

Tannigen.—Tannic acid has long been a favorite astringent both for external and internal applications. Although of established value in certain intestinal disorders of the intestinal canal attended with diarrhea, its use not infrequently proves disappointing, especially in affections of the lower bowel owing to the fact that the drug is absorbed by the mucous membranes before that part of the intestine is reached. It has, therefore, been the aim of chemists to prepare tannic acid in such a form that it will exert its effect upon the entire length of the intestinal canal. The outcome of these experiments is tannigen concerning which Dr. John V. Shoemaker writes as follows in his text-book on *Materia Medica and Therapeutics*: "This is a derivative of tannic acid in which two acetyl and three hydroxyl groups are present. Tannigen was prepared by Meyer in order that it might pass through the stomach unchanged and exert the influence of tannic acid upon the intestine. Tannigen is a yellowish gray powder soluble in water and alkaline solutions. The substance is devoid of taste, does not disturb the appetite or digestion and may be given for a considerable period without producing tolerance or habit. It has been generally given internally in doses of 3 to 8 grains thrice daily, but from 40 to 60 grains can be taken without bad results. Tannigen proved useful in diarrhea, more particularly in chronic cases. Its effect was less decided in acute diarrhea or that of tubercular origin. Tannigen has been employed also in chronic inflammation of the nose and throat."

PUBLISHER'S DEPARTMENT.

Messrs. P. Blakiston, Son & Co., of Philadelphia, have issued a new and complete catalogue of medical books containing portraits of fifty or more of the most popular authors of the day. They will mail you a copy postpaid on request.

GOLD FOUNTAIN PENS.—The Lincoln fountain pen is a regular \$2.00 pen and will do work superior to most \$2.50 pens now for sale. The makers, for an advertisement, will sell a limited number on receipt of \$1.00, neatly boxed with filler and full directions. Postpaid. If the pen is not satisfactory we will refund the money. We refer to **MEDICAL REVIEW**. **LINCOLN FOUNTAIN PEN CO.**, 108 Fulton Street, New York. Agents wanted.

A DISTINCT ADVANCE IN OBSTETRIC ART.—"The Elastic Funis Ring Applicator I procured from you last November has excelled my expectations. It is so beautifully simple in construction, so easy of application, and so thoroughly effective that it is bound to supersede the old method of ligating the funis wherever brought to the attention of the ACCOUCHEUR. To use it once is to adopt it for all cases. It makes a distinct advance in obstetrical art and must become an essential article of the 'little black bag.' I have used it in a number of cases and can testify as to its merits."

JOSEPH AGATE HOUSE, M.D.

151 Cottage Ave., Mt. Vernon, N. Y.

CHOLERA INFANTUM.—Physicians coincide in their views regarding the treatment of the summer diarrhea of infants and children to a degree that enables it to be thus briefly summarized: "Diet, emptying the alimentary tract, antiseptics. For the antiseptic treatment, Listerine alone, or Listerine, aqua cinnamon and glycerine, or Listerine, bismuth and mistura creta, will meet many requirements of the practitioner during the summer months.

The following well-tested formulæ are submitted:

℞ Listerine, - - - - - 3j-ij.
Simple Syrup, - - - - - 3vij-vj.

M.

Sig. Teaspoonful every two or three hours.

℞ Listerine,
Glycerine (C. P.),
Syr. Simpl.,
Aqua Cinnamon, - - - - - aa 3j.

M.

Sig. Teaspoonful ever one, two or three hours.

℞ Bismuth Sub. Nit., - - - - - 3ss.
Tr. Opi, - - - - - gtt.xx.
Syr. Ipecac,
Syr. Rhei Arom., - - - - - 3ij.
Listerine, - - - - - 3ss.
Mist. Creta, - - - - - 3j.

M.

Sig. Teaspoonful as often as necessary, but not more frequently than every three or four hours. This for children, about ten or twelve months old.

DIET is vital in diabetes. Bread from ordinary white flour, aggravates the disease in spite of medicine, and bran bread and other substitutes are so unpalatable and expensive, patients can not use them with satisfaction. Physicians find this a serious drawback in their practice. For this reason we are glad to remind the medical profession of the "Special Diabetic Flour" made by Farwell & Rhines, of Watertown, N. Y., which seems to have general and hearty endorsement wherever tried. The makers believe in their goods, hence their liberal offer of free baking samples. Write them for particulars regarding this and other valuable sanitary flours for dyspepsia, constipation and obesity, and the new diuretic "Barley Crystals."

MEDICAL REVIEW.

A WEEKLY JOURNAL OF MEDICINE AND SURGERY.

VOL. XXXIII.

ST. LOUIS, JUNE 6, 1896.

NO. 23.

ORIGINAL ARTICLES

The Treatment of Diphtheria.

BY J. E. FACKLER, M.D., VERSAILLES, OHIO.

Read before the Ohio State Medical Society, May 28, 1896.

Inasmuch as the general history, etiology, pathology and diagnosis of diphtheria are matters of record to which all may have access, and having nothing new to add to any of these departments of the study of this malady, I will say as little in reference to these as is consistent with an intelligent and practical presentation of a plan of treatment, that has been found most efficacious as compared with all others, that have become matters of record and subjects of comparison.

The recognition of this disease by the physician is seldom attended with any unusual difficulty. Ordinarily the chemical analysis of the fluids of the body, or the microscopical examination of the bacteriological elements is not required, but by simple inspection the diagnosis may be made with as much certainty as that of typhoid fever, pneumonia, malarial fever and many other diseases.

This is not intended to disparage the great value of the work of the bacteriologist, but in cases where the symptoms presented by the patient are insufficient the aid of bacteriological examination is thankfully accepted.

That the primary reason for the presentation of this paper may become more apparent, let us consider for a moment, some of the more characteristic features in the clinical history of this affection.

It is essentially a disease of childhood, however, not limited to this period of human life, except so far as mortality is concerned. In many instances it exhibits a rate of mortality that is most appalling. In some epidemics almost all have died.

In the Willard Parke's Hospital, at New York, as reported by A. Campbell White, M.D., in the *MEDICAL REVIEW* of November 11, 1894, the average rate of mortality for the two preceding years, of children between

the ages of 5 and 16 years was 17.8 per cent and of children under 5 years of age 42.7 per cent making a total average of all ages of 30.25 per cent.

The average mortality of all classes in the Kaiser und Kaiserin Friedrich Kinderkrankenhaus at Berlin for the last five years preceding the introduction of the antitoxin treatment as reported by Prof. Baginsky was 40.25 per cent. The reports of numerous other observers both in this country and in Europe indicate a mortality ranging from 25 per cent to 80 per cent. So that the general average of deaths in children of all ages as indicated is about 40 per cent.

Since the introduction of the antitoxin treatment the mortality has been reduced about one-half. Prof. von Widerhofer, of Vienna, reports a mortality under the serum treatment of 23.7 per cent. Baginsky, of Berlin, reports a mortality of 13 per cent. Dr. O. Heubner, Professor of Pediatrics in the University of Berlin, in summarizing the reports from all sources where the antitoxin treatment was used shows the average mortality to be 20 per cent.

The treatment exhibiting so high a rate of mortality in any disease of this period in life will not remain unchallenged by an intelligent and progressive profession.

Mere clinical statistics, however, are of no value only so far as they serve as an expression of the experience of the physician. The impressions the intelligent physician receives at the bedside are of far more weight in determining the efficacy of a remedy or in estimating the relative value of any system or plan of treatment than the most accurate and reliable statistics can afford.

That the treatment indicated in diphtheria should be antiseptic, germicidal and tonic is a well-established fact and universally admitted. Many remedies of this class, nevertheless, have proved unsatisfactory, and but few have maintained a prominent position for any great length of time in the treatment of this disease.

Among the latter, however, may be named potassium chlorate, tincture of muriate of iron, hydrochloric acid, turpentine, phenic acid and pinus canadensis. The first three of these preparations have for many years held a conspicuous position in the armamentarium of the practitioner and still continue to be extensively used.

In a somewhat extended and exhaustive paper read before this Society by Dr. J. S. Halderman, of Zanesville, Ohio, and published in the *Transactions* of 1894, the preference of remedies for the treatment of diphtheria seems to be given to a combination of quinine,

chloride of iron, sulphuric acid, chloride of sodium and glycerine, for which very satisfactory effects are claimed.

In a paper read before the North Carolina State Medical Society by Dr. R. A. Patterson, and published in the *MEDICAL REVIEW*, September 9, 1893, are reported a series of thirty cases treated with a combination of potassium chlorate, dilute muriatic acid, tincture muriate of iron and water, with most satisfactory results; all recovered.

From observation and some years of personal experience in the treatment of this malady I am convinced that the efficient germicide and antiseptic; the true specific or antidote for the toxic principle of diphtheria is found in these remedies.

Early in the history of my experience in the practice of medicine I was much impressed with the favorable results obtained from the use of a preparation of chlorine in the treatment of certain zymotic diseases, notably typhoid fever. Reasoning from analogy the use of it was extended to the treatment of diphtheria and for more than a quarter of a century the chlorine treatment has proved uniformly successful, not only in my own experience, but likewise in the hands of neighboring physicians who have made use of the remedy. Not a case under this treatment having proved fatal in all this time.

Believing that good results are dependent upon the careful preparation and proper manipulation of the remedy and that successful treatment is obtained not only from the selection of the proper remedy, but by its prompt and judicious use, the various steps in its preparation and administration will be given with sufficient minuteness for all practical purposes.

The remedy is prepared as follows: Take a four-ounce bottle rinsed and well-drained, put into it about one drachm (3j) of potassium chlorate in coarse powder, add from sixteen to twenty drops of chemically pure hydrochloric acid; apply gentle heat to the bottle until it is well filled with the gas. This part of the process should be prudently guarded, that the dangers of a possible explosion may be averted. Now pour into the bottle a small quantity of cold water, close the mouth of it and shake briskly for a few moments, add a little more water and shake as before; repeat this process until the bottle is filled. This manipulation must not be conducted in the rays of the sun, and when completed, the bottle must be corked and carefully enclosed in a wrapper to exclude the light.

It is now ready for use. In the administration of this preparation no metallic spoon or vessel of any kind should be used. But take an empty glass tumbler and pour into it directly from the bottle about a teaspoonful of the chlorine preparation and add sufficient water to it, to admit of the solution being conveniently swallowed.

This potion should be taken in about three hours' time by the patient swallowing a small quantity every twenty or thirty minutes. That the remedy may re-

main in contact with the throat as much as possible, nothing else should be swallowed soon after taking it.

If the secretions of the mouth be offensive the mouth should be carefully cleansed by washing out with the solution and all necrotic tissue and detached membranes that can be removed without violence to the congested and inflamed parts should be mechanically removed, but no attempt to gargle or swab the throat should be made; neither should any harsh measures be instituted at any time, but the parts should, as much as possible, be maintained in a state of quiet repose.

If there be considerable fever (temperature 102° F., or more) the exhibition of the fluid extract of veratrum viride one drop with fluid extract aconite one half drop in a teaspoonful of water every hour will in a very short time favorably modify the pyrexia.

In cases where there is torpidity of the bowels, congestion of the portal circulation and want of proper action of the liver and kidneys, free action of the bowels should be obtained by the administration every two hours of calomel one-fourth grain and bicarbonate of soda four grains, thoroughly triturated with sugar of milk, during which time the use of the chlorine must be suspended or withheld.

In a large majority of cases, however, the persistent and judicious administration of the chlorine solution alone is all that is necessary. Improvement in the appearance of the throat and general condition of the patient is almost immediate and after the first twenty-four hours of treatment is quite marked. The efficiency of this remedy is not limited to diphtheria alone, but extends to all cases of a diphtheritic character; necrotic and putrid sore throat and scarlatinous angina.

How this remedy acts I am not able, satisfactorily, to explain, neither is it necessary; the fact that it cures is of greater moment to the physician and the patient than everything else connected with it. It is most probable, however, that it attacks the poisonous substance which the pathogenic bacillus is said to secrete, the toxalbumen upon which the virulence of the disease depends, neutralizes, eliminates and renders it harmless.

The chlorine solution should not be abandoned until the throat is clean and ulcers are healed. When the acute symptoms have passed and convalescence is measurably established the tincture chloride of iron in small doses dispensed in water and glycerine will aid greatly in the restoration of the patient.

As an outward application to the throat, in severe cases, an ointment of camphor and turpentine has seemed to be most satisfactory. The dosage and treatment here given is that for a child four or five years of age. In cases of infants the chlorine solution may be converted into a syrup by the addition of sugar and is easily administered with equally good results.

The chlorine gas should be utilized as a disinfectant of apartments and dwellings infected with diphtheria. This in rooms unoccupied may be thoroughly effected without any difficulty; but in rooms that are occupied, some degree of caution must be observed, that the at-

mosphere does not become too irritant to the respiratory organs of the occupants. To readily accomplish such fumigation take an ordinary dinner plate place on it a quantity of potassium chlorate in coarse powder, pour onto it a proportionate amount of hydrochloric acid (C. P.), moderately heat the plate if necessary, carry it about the room or set it in a convenient place while the gas is being disengaged.

From infected foci treated in this way I have never known diphtheria to be contracted, or to extend to other members of the family with any degree of virulence. But all subsequent cases were much milder in form, more easily controlled and of comparatively short duration. If the condition of the patient requires that the secretory and eliminative organs be aroused and brought into proper action, this should be promptly and effectively accomplished by the use of the calomel triturate, as above indicated, followed, if necessary by the administration of castor oil and turpentine.

The chlorine preparation should be renewed, that is made afresh every few days, as it may soon become deteriorated especially if improperly handled.

Hyperemesis.—Pernicious Vomiting of Pregnancy, With Report of a Case.

BY F. A. BUTLER, A.M., M.D., HARVARD, NEB.

Read before the Nebraska State Medical Society, May 20, 1896.

In writing a paper upon this subject I am well aware that after having searched the literature thoroughly while treating a severe case that the results obtained by most authors seemed to have been unsatisfactory a treatment, successful in one case, producing little or no results in another case. Some of the German authorities deny that such a thing exists as pernicious vomiting in pregnancy; some vomiting, and nausea—morning sickness so-called—during gestation every woman expects, and every general practitioner of medicine is frequently called upon to prescribe for this so-called sickness with a view to its relief.

During seventeen years' active practice as a general practitioner it has been my province to meet with many cases of disorders of the alimentary canal during gestation, but have never seen but one real severe case of pernicious vomiting in pregnancy that I was determined to bring through to a favorable result, if there was a possibility or the least shadow of a chance in doing so, but am fully satisfied if called upon to treat a case at all similar to the one here reported, could not do so successfully, at least, would be very loath to undertake to carry such a case through unless the patient was placed under my immediate care and supervision, at my own residence; at the same time trust it may never be my lot to witness such suffering for which there is so little relief (unless according to all the authorities, that last inevitable proceeding which proves disastrous to

the life of the child is promulgated), permit me to say in reporting this case from actual practice, witnessing all symptoms from day to day, month after month, that this is not an overdrawn picture.

The patient in question, thirty-five years old, married seven years, became pregnant about August 28, 1894. Everything seemed to progress favorably until about the middle of the second month, when nausea became manifest and patient began to feel weak and languid, progressing worse until about November 1, when vomiting of a severe character set in, the stomach rebelling against all forms of food, no matter what the nature, consistency or kind, this continued regardless of all treatment. The various applications were given a thorough test, painting mouth of womb with iodine and the iodine glycerine and carbolic acid mixture, and other applications were given a thorough trial with no success whatever. Patient was put to bed in a well-ventilated upper chamber, all surroundings made pleasant, visitors excluded; vomiting continued. Patient who had been in good health and well-nourished since maturity, became weak and emaciated, aside from eating a few stalks of celery and drinking a bottle of soda twice in twenty four hours. Very little food was taken for six weeks, as nothing could be retained; vomiting continually the digestive fluids and frequently blood. When this had continued six weeks or to the middle of December, symptoms became ameliorated somewhat. Patient did not vomit all the time, only a certain part of the day, and an occasional day without vomiting. More hope was entertained as to the final outcome of the case. This improvement lasted four weeks, patient being able to sit up for an hour or two at times; some days patient was much more feeble than others; small quantities of milk could be drank, containing pellets of ice. About the middle of January continuous pernicious vomiting again re-appeared; patient was kept in bed, a number of physicians called in, and all the literature at my command was consulted on the subject. The stomach would retain absolutely nothing, the secretions of the salivary glands became greatly augmented, saliva constantly dribbling from the mouth; pyrosis and hicough constant, distressing symptoms; retching became continuous, stomach becoming so irritable that neither food nor drink, no matter how small the quantity administered could be retained, vomited material mixed with blood; tongue red and shining, teeth and gums covered with sordes, breath fetid, skin dry and harsh, thirst and salivation constant; constipation present; fever had developed, pulse 120 to 130. Patient and friends had given up in despair, friends requested me to call assistance and produce a miscarriage; physicians were consulted, all deciding that unless means were used to support patient's strength she would die of starvation, and before losing the patient from inanition a miscarriage had better be produced. After considering the cause of the hyperemesis in this case (as all treatment to the uterus had produced negative results), due to nervous origin, it was decided to use strychnine

hypodermically. One-thirtieth grain nitrate of strychnine (Parke, Davis & Co.) was injected into the arm three times daily, the needle being made aseptic just before using. At the same time alimentation per rectum was resorted to (following Dr. Halderman's timely suggestion in a paper on this subject read at the Beatrice meeting, 1890, to use a bag syringe), the bowel being cleared once or twice daily by copious warm water injections, and every four hours day and night four ounces of either predigested food, beef peptonoids, diluted beef juice, or the juice or soup from the different kinds of game, without seasoning, or new milk was administered in the manner described, at the same time half an ounce of hot water, three times daily to keep the stomach from shrinking was given by the mouth, was everything and the only thing taken for eight weeks, strychnine and injections of food as stated continued. About the middle of March patient began to gain, vomiting began to subside, she could take kuymesgen, drink buttermilk, and finally sweet milk, and rare beef steak cut up in small bits, placed in fresh butter and heated through, without any seasoning, and also bread and milk. Administration of food, per rectum, discontinued; strychnia was left off three days; nausea recommenced; hypodermics of strychnia was again resorted to which controlled it as before. At this time, the seventh month of gestation, albuminuria and dropsy supervened to an alarming extent; patient could take a tablespoonful of cream of tartar, once in twenty-four hours, which seemed to act well as a laxative. An infusion of digitalis and acetate pot. was prescribed, but could not be taken; dropsy increased until patient could breathe only in a semi-sitting posture, propped up with pillows. As a last alternative, hot baths were given (well knowing the tendency to produce a premature birth by doing so but something had to be done). Patient was placed in bath tub, temperature 98°; towels soaked in cold water were wrapped around the head; temperature of bath run up to 110° by adding hot water gradually; patient could not stand this but twelve minutes; was put to bed, wrapped in woolen blankets; temperature of room 100°; there is no estimating the perspiration this produced; blankets, bed clothing and everything literally saturated; this also caused one of the most severe forms of headache. After a couple of hours the room was allowed to cool to the usual temperature, everything being changed before doing so; patient slept well during the afterpart of the night. Aside from an exhausted feeling, next day was greatly relieved; in ten days was as bad as ever, with the general anasarca. Another bath was given as before, with the same results. Patient advanced about eight months, and four days; three days after the second and last bath was given, premonitory labor pains began (patient could not take chloral hydrate to control them), continued at intervals for three days, when real labor came on in earnest. Patient was chloroformed during the labor (and everything conducted under a strictly aseptic regimen), which was without accident or incident, giving birth to twins, the

second child being born one hour and twenty minutes after the first; they were small, thin little fellows, with large frames, weight five pounds each; born twenty one days prematurely. Mother and children were kept in a chamber with temperature of 98° for a few days, and not less than 75° to 80° for two weeks; mother making a satisfactory recovery (a new perplexing problem arose, the nurse would not follow directions regarding the temperature of the room, agreeing however to do so when threatened with dismissal), and had plenty of milk for both of the children, who grew and thrived. Mother and children have not seen a day's sickness during the year. As a result of this treatment and management we have two fine children, one year old, a boy and girl, to bless and comfort our beautiful home.

CONCLUSIONS.

1. Albuminuria existed to an alarming extent, notwithstanding the patients' diet for the last two or three months was almost exclusively of milk.
2. Patient having a susceptible nervous temperament, having had a severe and continuous attack of chorea when a child, led me to believe the hyperemesis to be of nervous origin in this case, and not as presumed by many of the authors, that the disease depends upon a pathological or physiological condition of the uterus, hence the good results produced by the strychnia hypodermically and until three weeks after birth, making five months in all.
3. All applications made, and medicine used, only proved to aggravate instead of allaying the hyperemesis.
4. I know of some cases where abortions have been produced in consequence of exaggerated vomiting done so too soon, more persistent perseverance should be used in the treatment of these cases.
5. The administration of food per rectum sustained the patient's vital forces until the vomiting of nervous origin could be controlled by the greatest of nerve tonics—strychnine.
6. Children born prematurely can not be cared for too assiduously, regarding nourishment and temperature of chamber in which they are kept; the little child becomes cold easily, and if so, is almost sure to die. We know of many little ones who have perished from this cause alone—due to neglect, ignorance or incapacity of the nurse.

Facts Without Varnish.—The late lamented Prof. Goodell made the following pertinent challenge (*Columbus Med. Jour.*): "I dare any political economist to show me one expedient whereby conception can be avoided. I challenge him to name a single preventative which will not do damage either to good health or good morals. Even natural sterility is a curse. Show me a home without children, and ten to one you show me an abode dreary in its loneliness, disturbed by jealousy or estrangement, distasteful from wayward caprice or from unlovable eccentricity."

Phosphates in Albuminuria.

BY THOMAS O. SUMMERS, M.D., ST. LOUIS.

Read before the St. Louis Medical Society, April 18, 1896.

It is a very remarkable fact that a pathological condition so frequent, so early and so easily determinable, so amenable to physiological control under primary condition should be so invested with obscure pathologic expression, with such looseness of scientific statement and, in short, such unsatisfactory nomenclature, to say nothing of treatment itself. For example, whenever the term *Bright's disease* is used by the majority of the profession it is generally understood to be an almost incurable disease of the kidney—the nominative synonym for which is the vague and indefinite term *albuminuria*. Bright's disease is not in itself a disease—it is the result of long continued pathological conditions which are shown in ulceration of the kidney substance, but it is no more albuminuria than osteomyelitis is tuberculosis or scrofula. To prove this, it is an undeniable fact that there are cases of Bright's disease in which, at some time or other, albumen is not present in the urine. In acute nephritis and chronic parenchymatous nephritis it is almost constantly there and in abundance. In contracted kidney the amount may be slight and for hours or days all that is voided is free from even a trace of albumen. One of the most important points connected with the presence of albumen in the urine is to determine whether or not we have to deal with a renal albuminuria or an accidental albuminuria, *i. e.*, an albuminuria where the albumen has its origin in the kidney or without the kidney, as in the pelvis, the ureter, the bladder or the urethra.

Since Richard Bright first left his most lamentable impress upon urinary pathology, as Dr. Delafield, of New York, has well said, the presence of albumen in the urine has been regarded as proof of kidney disease, both by physicians and the laity. And in spite of all evidence to the contrary this is still the popular belief. It is true that any educated physician will admit that albumen may be absent with kidney disease and present without it, but, after all, this admission is largely theoretical. In practice the old belief prevails and even in the light of modern physiology and pathology the presence of albumen is still looked for as the main evidence of kidney disease.

The general belief concerning albumen has been that it has been removed from the blood by the kidneys in the same manner as sugar or urea, and that if large quantities are removed from the blood the composition of the blood is changed. A good deal of pains has been taken to discover why it is that diseased kidneys should excrete albumen. The presence of serum albumen and serum globulin in the urine means simply this, that the blood serum of which they are constituents become mixed with the urine. The simplest way in which this can happen is to have bleeding from the bladder or kidneys, so that the blood and urine are mixed. The ordinary way is for the blood to transude from the kid-

ney capillaries, just as it does from the capillaries in other parts of the body. Albumen in the urine, therefore, means the same thing as serum in a serous cavity—that there has been transudation of serum from the vessels. Albumen, therefore, resolves itself into this, that the urine has blood serum mixed with it. So that the kidney must be regarded as liable to exudations of serum either of inflammatory or dropsical character. But, in the serous membranes the exudation is not in the membrane but in the cavity, so in the kidney the exudation is not into the parenchyma but into the tubules.

Now, then, the causes of albuminuria which lead up to our line of permanent therapy are the same as the causes of dropsies in all parts of the body.

1. Inflammatory changes in the capillary walls rendering them more permeable—acute nephritis.
2. Changes in the composition of the blood—as puerperal eclampsia.
3. Changes in blood pressure.
4. Non inflammatory changes in the walls of the capillaries.

The significance, therefore, of albumen in the urine depends upon its causation. As a symptom it may be compared to a cough. It is well known that while cough is a frequent symptom of lung disease, yet it does not define the character of the disease, nor even that there is any disease at all. Albuminuria, while it always means that the capillaries of the kidney allow the blood serum to pass through their walls, does not tell us whether the causation of this transudation resides in the kidneys or outside of them.

This leads up to the therapeutic conclusions of this paper, which are practically:

1. The condition of albumen in the urine is determined by osmotic relations.
2. Excess of alkalinity means exudation.
3. Phosphatic salts prevent the exosmosis of albumen and its consequent tubular deposits.

In conclusion, everything depends upon the chemical arrangement of the phosphates used. Most of all the inorganic agents, which are therapeutically indicated in disease, fail in their work from the fact that they are not reduced to osmotic relations in the body. This brings up a most important factor in therapeutics—one which involves serious ethical relations, and I feel that I can not do better than to broach it here among our own family circle. The phosphatic salts themselves are not directly assimilable as they come from the shelves of the apothecary. They must be brought to a physiological standard. For this purpose, as in many other cases, such as antitoxin and remedies of that nature, we must rely upon the pharmaceutical chemist to supply the necessary conditions. I have found, for example, that phosphates, otherwise inert, when brought by chemical processes nearer to physiologic conditions, will fulfill every function that belongs to them in the organism. The preparation of melachol, which represents this reduction of chemical arrangement to physiologic law, entirely meets the conditions.

MEDICAL REVIEW.

EDITORIALS

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PUBLISHED UNDER THE AUSPICES OF THE
MEDICAL REVIEW ASSOCIATION

BY O. H. DREYER.

YEARLY SUBSCRIPTION, \$3.50. SINGLE COPIES, 10 Cents.

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Entered at the St. Louis Postoffice as Second-Class Matter.

The St. Louis Tornado.

The extent of the damage wrought by the recent tornado which has devastated a large part of the southern portion of this city, is immeasurable. Various estimations have been attempted, but their variation speaks eloquently for the difficulty of such an attempt. We believe, however, that the loss of and damage to buildings alone may be calculated at about \$20,000,000. This being at least the estimate of Professor Bauman, of Chicago, an expert in building, called here by a citizen's relief committee.

Judging from an editorial of a much read daily paper indignation of the people in the stricken district runs high with regard to the action of Mayor Walbridge declining the alleged proffered assistance of other cities. A committee of citizens, representing the devastated districts, including a number of well known physicians, have entered protest against the action of the Mayor, claiming that the distress of innumerable citizens is appalling and that the help of outside cities should not

have been declined. The names of our colleagues, among them some of the busiest general practitioners of this city, appear to guarantee that their protest is well founded; for nobody has a better opportunity of forming a correct idea of the real extent of the wide spread misery than the physicians of those parts of the city which have been visited by this terrible destruction of property.

The consequences of the appalling calamity might have been even greater, however, if the main business portion of the city had suffered as much as private residences, or if the stricken districts had been visited by the storm after business hours when many men, living in the upper stories of buildings, would have been at their homes. In the latter case the loss of life might have been counted by thousands instead of hundreds.

Looking upon the brighter side of things, there may be, perhaps, one redeeming feature in such disasters, namely, the moral effect upon the population. Some of those who have been selfishly secluding themselves from the many mutual interests of mankind and have been indifferent to the misfortunes or interests of their fellow-citizens, have received a most effectual reminder that few are excepted from an occasional visitation of this world's misery and that a mutual sympathy and charitable inclination is a duty which, if ignored or neglected, may come home to the delinquents at a time when it is least expected. Against the wrath of the elements the rich and the poor are often equally helpless.

This terrible tornado, which appears unprecedented in its effects, should be a reminder, moreover, that it will not do to disregard the laws of Nature. Tornadoes are on the increase in number as well as severity. The causes for this phenomenon it is high time for meteorologists to study closely and, we believe, that some of the causes are well known. One most important and, it seems, generally acknowledged cause, is probably the great devastation of forests. The Government should speedily correct the nuisance of this detrimental custom, regulate and equalize the growth of vegetation throughout the country. Meteorologists should make their influence felt in matters of this nature; for this question begins to become as important as the carrying out of hygienic measures by the municipal and State governments.

We have on former occasions harped upon the necessity of obeying Nature's laws, the truth of which is recognized in all natural phenomena and nobody has a better opportunity to study them than we physicians. To the credit of the medical profession it must be admitted that hygienic efforts for the prevention of epidemics are far in advance, in this country at least, of any similar attempts of chaining devastating natural elements and controllable physical forces. In some countries the application of science towards influencing natural phenomena, regulating vegetative growth—the harmonious distribution of forests—and preventing its destruction by adequate laws, is a most commendable,

may—absolutely necessary feature of modern civilization which should find speedy and prompt imitation in this country.

It is a most agreeable and, we might add, somewhat unusual surprise to find among the many sermons of local ministers, the gist of which was reproduced in the daily press, the following practical and up-to-date views of the highly esteemed Rev. Dr. Boyd, of the Second Baptist Church, who in a sermon on tornadoes in general and the St. Louis tornado in particular said:

"When men violate the natural laws by cutting down our forests, by changing the very equilibrium of Nature, by refusing to be instructed as to the necessity of replacing, by planting, the trees which they take down for timber, let them not complain if they receive the penalty of these violated natural laws in the awfulness of the tornado and the fury of the cyclone. These cyclones and tornadoes are to be accounted for on purely natural and scientific grounds, and are to be regarded in no other light than as natural penalties of men's own violation of well-known laws, and if the devastations of our great forests continue to go on as they have been going on, and the greed of the lumberman is allowed to desecrate the great parks that God Almighty has placed upon the earth for the protection of his creatures, let us not complain if we are all buried one day in an awful, universal cyclone."

In a previous editorial we have, by the way, called attention to the intelligent, practical and most commendable stand which Dr. Boyd takes in the social evil question in which his views seem to coincide with those of all logical and scientifically educated persons.

The connecting link between the subject of tornadoes and that of the social evil appears to be, at first sight, a hard matter to recognize, but upon closer inspection it will be found that, in all probability, tornadoes as well as the social evil are, to a certain extent, the natural consequence of a disobedience of the laws of Nature and both may be preventable with a better understanding of these laws, so as to find the means by which destructive may be changed into constructive forces, curses converted into blessings; in other words, means by which Nature's energies are made subservient to the intellect of man.

With men of Dr. Boyd's characteristics and practically inclined mind in the pulpits of this country the general public will soon be more eager to obey the laws of Nature and the devastation of our forests as well as many other nuisances will be a thing of the past.

The Bacterial Origin of Acute Articular Rheumatism.

Although no specific micro-organism has been demonstrated to be the cause of acute articular rheumatism there are many indications pointing to the fact that this disease is due to an invasion of the affected joints by bacteria. The epidemic form of rheumatism speaks for the microbic etiology; the symptoms of the affec-

tions are those of an acute infectious disease; the endo- and pericarditis, pleurisy, pneumonia and cerebral complications which are observed in some attacks of rheumatism—all seem to point to a microbic origin. Of course, as in many other diseases, the presence of a predisposing element such as the exposure to cold and moisture may have to be present besides the exciting cause, the microbic infection, in order to develop the disease in most instances. It is highly probable that not only one form of micro-organism causes a rheumatic attack, but that, as in suppuration, a number of micro-organisms may be the exciting cause of an attack of rheumatism. The micro organisms which have been found in rheumatism are principally pyogenic microbes, and especially staphylococci and streptococci. That the virulency of pathogenic micro organisms is modified according to their surroundings is a fact which applies also to the pyogenic property of the microbic pus producers. In rheumatism of microbic origin it is supposed that the pyogenic organisms are so modified that ordinarily no pus is formed.

In order that the organisms, constituting the exciting cause of the disease, may enter the tissues of the joints, they must, of course, first enter the circulation by the absorption from some inflammatory focus. This fact should be borne in mind in every case of rheumatism and it may be found that certain affections which have been heretofore looked upon as concomitant diseases are really the original foci from which the joints became affected, presenting the characteristic symptoms of acute articular rheumatism. Tonsillitis and pharyngitis are mentioned in some of the most recent textbooks not as causes, but frequent complications, of rheumatism; while several authors have called attention to the important role which anginas play as an exciting cause of that disease. Some authors have described even a "rheumatic" angina as a particular form of angina. Attention has also been drawn to the fact that a slight angina often escapes the notice of patient and physician and that possibly throat affections which have escaped observation may frequently be the starting point of a rheumatic infection. Some authors have gone so far as to express the opinion that every case of rheumatism is caused by some form of angina, including even the angina of diphtheria and scarlet fever, and that in every case of rheumatism an antiseptic gargle should be used to prevent a further absorption of infectious material. An osteomyelitis, or endocarditis, or a nephritis may be caused by the absorption into the circulation of pyogenic micro-organisms, whether this absorption take place from the local focus of, for instance, an angina or a furuncle of the skin. That the same should not be equally true of rheumatism, would not be reasonable to expect, although the absolute proof has not been rendered. As the microbic origin of rheumatism appears to be more plausible than any other, we have no doubt that more general attention will be paid in the future to the presence of local inflammatory initial foci in rheumatic affections.

The various manifestations of the latter and the variations in their degree of obstinacy, as well as bacteriologic investigations, seem to indicate that rheumatism may be caused by more than one form of micro-organisms, similar to what takes place in the process of supuration. It may be hoped that with a future possible differentiation between different kinds of microbic infection supposed to cause rheumatism the therapeutic efforts in this disease may become less empiric and more effective. Although salicylic acid is one of the few valuable specifics in materia medica, it nevertheless varies considerably in its promptness of action in acute articular rheumatism. This variation has been ascribed to the probability of a variation in the kind of microbic infection and, judging from the general behavior of bacterial infections, this view may be correct, but more evidence is needed to accept the same as more than a plausible hypothesis.

Vacancies in the Medical Corps of the U. S. Army.

There are at present three vacancies in the medical corps of the U. S. Army, and it is expected that at least three more will occur during the present year. As usual, an Army Medical Board will meet in Washington early in October for the examination of candidates. The requirements for admission to the medical corps are stated in a circular issued by the Surgeon General of the Army, dated May 21, 1896, and approved by the Secretary of War, as follows:

"Permission to appear before the Board is obtained by letter to the Secretary of War, which must be in the handwriting of the applicant, giving the date and place of his birth and the place and State of which he is a permanent resident, and inclosing certificates, based on personal acquaintance, from at least two reputable persons as to his citizenship, character and habits. The candidate must be a citizen of the United States, between twenty-two and twenty-nine years old, of sound health and good character, and a graduate of some regular medical college, in evidence of which his diploma will be submitted to the Board. The scope of the examination will include the morals, habits, physical and mental qualifications of the candidate, and his general aptitude for service; and the Board will report unfavorably should it have a reasonable doubt of his efficiency in any of these particulars.

"The physical examination comes first in order, and must be thorough. Candidates who fall below sixty-four inches in height will be rejected. Each candidate will also be required to certify that 'he labors under no mental or physical infirmity or disability which can interfere with the efficient discharge of any duty which may be required.' Errors of refraction, when not excessive, and not accompanied by ocular diseases, and when correctible by appropriate glasses, are not causes for rejection.

"The mental examinations are conducted by both written and oral questions, upon:

"1. Elementary branches of a common school education, including arithmetic, the history and geography of the United States, physics, ancient and modern history, and general literature. Candidates claiming especial knowledge of the higher mathematics, ancient or modern languages, drawing, analytical chemistry or branches of natural science, will be examined in those subjects as accomplishments and will receive due credit therefor according to their proficiency.

"2. Professional branches, including anatomy, physiology, chemistry, hygiene, pathology and bacteriology, therapeutics and materia medica, surgery, practice of medicine, obstetrics and the diseases of women and children.

"Examinations will also be conducted at the bedside in clinical medicine and surgery, and operations and demonstrations will be made by the candidates upon the cadaver.

"Hospital training and practical experience in the practice of medicine, surgery, and obstetrics are essential to candidates seeking admission to the Medical Corps of the Army, who will be expected to present evidence that they have had at least one year's hospital experience or the equivalent of this in practice.

"To save unnecessary expense to candidates, those who desire it may have a preliminary physical examination and a mental examination in the 'elementary branches of a common school education,' by a medical officer of the Army stationed most conveniently for this purpose, who will act under instructions from the Medical Examining Board."

TRANSLATIONS.

BY EDGAR THOMPSON, M.D.

Action of Strychnine on the Kidneys.—

It has been the general opinion that strychnine considerably elevates the blood pressure by stimulating the vaso motor center of the bulb, at the same time elevating the respiratory activity and augmenting the work of the heart (*Vratch; La Presse Medicale*). This action seems to be especially the case where the activity of the above centers and organs is depressed and below normal.

The action of strychnine is not clear, however, and Bourguinsky has investigated the subject. The first series of experiments demonstrated that after the injection of strychnine the diuresis diminished in a very short time; this diminution of the urine coincided with a considerable elevation of the blood pressure. In some cases the diuresis was temporarily suppressed. The author attributed this action of strychnine to the contraction of the small arteries in the kidney following

vaso-motor excitation and to decide the question he injected the proper amount of chloral a few moments after the strychnine. The result of this subsequent injection was a re establishment of diuresis, preceded by a great depression of the blood pressure. The chloral paralyzes the vaso-motor centers and antagonizes the action of the strychnine.

In a second series of experiments the writer first paralyzed the vaso-motor centers with chloral and then found that subsequent injections of strychnine did not only diminish diuresis (as it did when used alone), but augmented it. The explanation of this phenomena is simple; the strychnine could not act on the renal arteries through the vaso-motor centers because the latter had been paralyzed by the chloral. The strychnine could elevate the blood pressure by its action on the heart and thereby produce the most favorable condition for diuresis, viz., paralytic dilation of the blood vessels caused by the chloral and elevation of the blood pressure caused by the strychnine.

The author's theory is re-inforced by the fact that strychnine will not cause a diminution of diuresis after section of the bulb.

The following conclusions are drawn:

1. Strychnine, injected in doses sufficient to cause convulsions diminishes the afflux of blood to the kidneys, by contracting the renal arteries. The result is a diminution or suppression of diuresis.
2. The action of strychnine is, without doubt, one of the causes of its slow elimination by the urine and its resulting accumulative effect.
3. In health, strychnine administered in non-toxic doses can cause a temporary elevation of the blood pressure and diminution of diuresis; but in conditions where the blood pressure is lowered by disease, strychnine can elevate the blood pressure to its normal degree without affecting the secretion of urine, or perhaps increasing it.

The Symptoms and Causes of Arthritic Diathesis.—Dr. H. Richardiere says that while the clinical aspect of cases of arthritis vary somewhat the symptoms can, nevertheless, be grouped so as to clearly indicate a common temperament (*L'Union Medicale*). In all cases there is a general and predominating tendency to congestions and it is termed by some a congestive diathesis.

This tendency to congestions appears very early and is expressed in infants by the irregular flushings of the skin and mucous membranes. At the first dentition an arthritic child will be almost sure to have facial eczema. The eczema is confined to the regions about the mouth and rarely appears on any other portion of the body.

During the early years of life the arthritic temperament is manifested in many ways. The victims are subject to morbid congestions of the mucous membranes of the superior respiratory tract: coryzas and tracheo bronchitis are very frequent. The least chill is sufficient to determine the afflux of blood to the mucous

membrane. Any sudden change of temperature will do it. These attacks are always accompanied by an abundant hyper-secretion. In some children there is an abnormal development of adipose tissue.

After the first years of life the arthritic children have frequent attacks of tonsillitis, erythematous angina and epistaxis. Muscular rheumatism (torticollis) is the first manifestation of the arthritis in the locomotive apparatus. At the same time joint pains are complained of.

During adolescence the hemic fluxations cause acne, exanthema and sometimes purpura.

In the adult the exterior aspect of the patient is characteristic. They are plethorci, florid and with very vascular mucous membrane. Premature baldness is frequent. The skin of an arthritic subject sweats easily and this tendency produces a very pruriginous form of eczema. The appetite is most always good and frequently exaggerated, but atonic dyspepsia may supervene.

In the aged the manifestations of the arthritic diathesis are more grave. The internal organs are involved in permanent lesions. The cellular tissue is especially affected. Attacks of gout become very frequent. Diabetes and lithiasis (biliary and urinary) make their appearance. Most of the lesions are sclerotic due to the chronic congestions. The arteries become brittle, leading to cerebral hemorrhage. Interstitial nephritis and general atheroma are natural consequences of this tendency to chronic congestion.

The author believes that heredity plays a prominent role in that the same diathesis persists in families. He does not intimate that a particular pathological condition is transmitted but he comprehends that a morbid temperament is inherited which predisposes to certain diseases and nutritive disturbances. The specific complaint of the descendent may differ from that of the parent but both have the same origin. Thus children of gouty or diabetic parents can suffer from lithiasis, sclerosis, etc.

The causes of the acquired form of the diathesis lie in disturbances of nutrition and its direct cause seems to be due to a superabundance of alimentation. It is a condition which excessive eaters are liable to. When more food is presented, than the organism can utilize, it will favor the formation of the arthritic diathesis.

The diathesis is more frequent, for obvious reasons, in persons of sedentary habits living in cities, than in those who labor and dwell in the country.

Correction.—In the article of Dr. G. W. Moody, of Shelbyville, Tenn., which appeared in the issue of May 23, 1896, the last sentence, left hand column, page 367, report of Case 2, should read: "I have noticed a number of times, in croupous pneumonia, that veratrum on reaching a very decided physiological effect upon the circulation, seemed to esquelch, as it were, the pathological process which it did in this case."

MEDICAL : SOCIETIES

PROCEEDINGS OF THE ST. LOUIS MEDICAL SOCIETY.

W. H. FUCHS, M.D., EDITOR.

Stated meeting, Saturday evening, April 18, 1896; the President, W. G. MOORE, M.D., in the chair.

DR. A. H. MEISENBACH presented a specimen, and reported a case of

Tuberculous Kidney and Ureter, in Which Nephro-Ureterectomy was Performed.

So far as the doctor knows this is the first case of nephro-ureterectomy on a male performed in the United States. Kelly has operated three times on women, and Reynier reports a case of nephrectomy for suppurating kidney, followed by ureterectomy.

The Doctor will give a more detailed account of the case in a paper at some future date.

DR. THOMAS O. SUMMERS read a paper entitled (see page 403, this issue),

Phosphates in Albuminuria.

DR. BRANSFORD LEWIS asked the essayist whether he had used the treatment in his private practice to demonstrate its correctness, or whether it is based merely on a supposition.

DR. SUMMERS replied that his attention was first directed to this matter twenty years ago, and since that time, in a quite extensive practice on the kidney, he had found that it is almost as positive as anything can be—that the albuminuria which leads to Bright's disease, ulceration of the kidney—can be prevented by the use of phosphates. He used it extensively in the South, and gave it in the form of phosphate of ammonia, using it on grits instead of salt. Later on he used it in a more concentrated form, by boiling down the phosphates of ammonia, soda and magnesia until a concentrated solution is obtained. This is given in teaspoonful doses three times a day.

DR. BRANSFORD LEWIS thought it a very interesting proposition that the Doctor has made to the Society, but he certainly can not consider it as a comprehensive treatment, or specific medication, for the disease of which albuminuria is merely incidental. It is probably used merely to counteract the albuminuria.

We are becoming more thoroughly imbued with the lack of importance of albuminuria as an incident to those diseases coming under the head of inflammation

and ulceration of the kidney. Albuminuria may or may not be present in so-called Bright's disease, and, of course, it is of great importance to detect it, as it may be one of the earliest symptoms of this grave malady. The heat and nitric acid tested employed for the detection of albumen are very insecure, and even fallacious. Speaker had not used them for three or four years, and had discontinued their use because they failed to indicate the presence of albumen in a number of cases where more delicate tests showed distinct traces of it. He usually employs ferrocyanide of potash solution, and adds citric or acetic acid afterwards. Protoiodide of mercury is a very delicate test, but is liable to be fallacious in that a milky, cloudy urine is formed when salts of quinine or morphine are in solution, as when the patient has been taking the drugs. But this cloud may be readily dissolved by the application of heat.

DR. H. JACOBSON had used the phosphates at the essayist's suggestion, but he has not had the same success. He has often noticed that the phosphates produce nausea and vomiting. There are unquestionably cases of physiological albuminuria when the patient does not require phosphates or anything else.

DR. ROBERT FUNKHOUSER had used the phosphates in patients where there is a suggestion of albuminuria of phosphaturia or lithuria—where there is congestion of the kidneys in albuminuria—but he has not found that they had any appreciable effect on the quantity of albumen. It is true that even casts may be prevented in some forms of kidney trouble, such as the red granular kidney, but nothing is of more value for this purpose than proper diet. The essayist has not taken the cause of albuminuria into consideration. The mere statement that phosphates of soda will cure albuminuria, does not meet the question. There are certain forms of diseases of the kidneys in which no one remedy is sufficient. In formulating any treatment we must go back to the cause of the trouble. Thus, albuminuria may be due to nervousness, for instance. Nervousness and worry extending over a sufficient period of time may cause an impairment of digestion and a consequent disturbance of metabolism, which results in albuminuria. Under proper treatment these cases may recover, and it is possible that the phosphates may contribute to the result.

Whatever may be said to the contrary, albumen in the urine indicates disease, and it is a symptom that must be taken into account. It becomes necessary at times to examine a number of specimens of urine, taken at different hours of the day and on different days, sometimes extending the investigation during several weeks. In this way albumen has been found by speaker in specimens that were pronounced free from it by other physicians. The finding of albumen does not indicate disease of the kidney, however; it may be due to other causes, but should always be accepted as evidence of danger.

DR. I. N. LOVE presented a paper on

The Therapeutic Uses of Water.

DR. BRANSFORD LEWIS spoke in hearty commendation of the paper, especially the latter part of it. It appeared to him on several occasions that when he felt most sure of anything, that is the time to be least sure of it; and so, when he felt most sure of the good effects of distilled water, the article by Dr. Bremer, calling attention to its corroding effects on mucous membranes, startled him. He had considerable experience with double distilled and re-aërated water during the past few years, both personal and in prescribing it in urinary inflammations, and has been well pleased with the results, never having noticed a corroding effect upon the gastric or any other mucous membrane. He does not drink Mississippi river water, either filtered or unfiltered, and has been in much better health since then than before. The statement, that distilled water has a corroding effect on mucous membranes, must, therefore, be regarded as absurd and without foundation in practice.

DR. A. H. MEISENBACH called attention to the omission, in Dr. Love's paper, of the surgical use of water. The systematic treatment by hot or cold water followed by friction or massage, of joints which have become partially ankylosed after having been immobilized for fracture, has yielded good results, and is extensively used on the continent.

Speaker thought that the surgical use of water is not as thoroughly appreciated in this country as it ought to be. Up to the present time it has been in the hands of hydropaths, which is very often but another name for "quacks;" they are usually but quasi scientific. On the continent the application of water in all its forms is fully appreciated, and almost every hospital is fully equipped for the treatment of internal and surgical diseases. In the treatment of nervous diseases water occupies a very high position among therapeutic measures, and this subject is particularly neglected in this country. Every large hospital should be equipped with a complete outfit for the application of water in all forms of diseases.

DR. ROBERT FUNKHOUSER had been accustomed to using double distilled water personally and in his family, and he makes constant use of it in his private practice. He has failed to find that disagreeable flatness complained of by so many who drink boiled water, and for many years he has not drunk water in any other form. The benefit derived from hot water in gastric troubles is probably due more to the heat than to the water itself.

In regard to the use of water for convulsions in children, speaker was inclined to disagree with the essayist. Of course, it is barbarous to plunge delicate children with convulsions into boiling hot water, but water heated to the proper degree serves a better purpose than cold.

Surgeons do not use simple distilled water as extensively in the peritoneal cavity as was their custom,

owing to its supposed irritating property on the peritoneum. The normal saline solution seems to obviate this property, and is apparently more readily absorbed into the circulation.

DR. B. W. LOEB was glad to hear the merits of water so generally extolled. He has always been a believer in distilled water as a beverage, and, although some people object to it on the grounds that it is not as Nature provides it, it must be regarded as one of the many improvements of Nature. She does not always provide just what is necessary; if she did there would be little need of the doctors, one of whose missions it is to try and make the necessary improvements.

But there is one use of water which should be thoroughly condemned, and that is in the form of nasal douches for chronic rhinitis. This indiscriminate use will create a chronic inflammatory condition of the mucous membrane of the nose, if it does not already exist, and may lead to aural affections. If crusts are present in the nasal cavity the water serves to dissolve them only partially; they swell and cause a more pronounced narrowing of the cavity.

DR. ROBERT BARCLAY spoke from the standpoint of one who drinks Mississippi water just as it flows from the pipes in St. Louis. He believes that we have the best drinking water in the world in St. Louis, and although visitors may be horrified and turn up their noses at first, they often express a wish for our water after they have returned home.

DR. BRANSFORD LEWIS protested against the use of Mississippi water as the last speaker advocated it. It was demonstrated to the satisfaction of the majority of the profession in St. Louis and to the city health officers that the typhoid fever epidemic of two years ago had its origin in Mississippi water, the source of infection being the Gin Creek which enters the river just above the inlet of the water works.

DR. I. N. LOVE said there are a great many things that might be argued in medicine, but it is firmly established that typhoid fever and cholera are water-bred diseases. Under existing conditions, therefore, it is better to boil all drinking water. The process of double distillation and aeration is accomplished very satisfactorily and solves the water problem in St. Louis. The cessation of the epidemic of two years ago was brought about largely by the boiling of water; the people have been educated up to it and we have had no more epidemic in consequence.

Speaker did not attempt to cover all the therapeutic uses of water in his essay and its surgical application was therefore not touched upon. In America we do not take well to water as a remedial agent, and, like in a great many other matters, we wait for our scientific friends in Europe to take the initiative and then we follow. Its use in this country has been left to the hydropaths, and like the electropaths, they have taught us a valuable lesson.

In ninety per cent of the cases convulsions in children are due to a high temperature; therefore hot water

baths are not proper for this condition. In sun-stroke we use water as cold as we can get it, and we should educate people to give tepid baths to children with convulsions.

The remarks of Dr. Loeb, referring to the use of cold water in the nose as a douche, are certainly proper, but that is no argument against its proper use in this locality. Cases of inflammation of the nasal passages with suppurating fetid sores of the throat have been greatly benefited by hot water applied with a fountain syringe or a soft rubber catheter. The same may be said of the use of water as a cleansing agent in the stomach. Properly used it is of great benefit, but long-continued lavage is decidedly injurious.

The same rule applies to any of its many uses; our efforts should be directed towards educating people in its proper use and to warn them against anything that may mislead.

ABSTRACTS

MEDICINE.

Creosote in the Treatment of Enlarged Bronchial Glands.—The May number of the *Archives of Pediatrics* contains an account of two cases which came under the observation of Dr. J. P. West, of Bellaire, Ohio. The author was called to see a child fourteen months old, with a croupy cough. The child was unusually bright and had previously had good health. He had been partly nursed and partly fed on cow's milk until he was ten months old, after which time he had been fed entirely on cow's milk. The cough resembled in every respect that of membranous croup, being harsh, hoarse, and brassy. On examination, no dyspnea or change in the voice was found. There was a rather severe coryza and there were the physical signs of mild bronchitis. A salve was prescribed for the former and an expectorant for the latter, and in a week these symptoms had disappeared, and the cough subsided somewhat in frequency, but it did not change in character. The cough persisted during the autumn and winter with but one intermission; there were no paroxysms of coughing, but from one to four tight, ringing barks, without evidence of pain or soreness, and there was never any indication of secretion. As the cough continued after the bronchitis disappeared, the chest was again examined to ascertain the cause of the cough. There was marked dullness over the upper part of the breast bone, and with a stethoscope a venous hum could be heard over this area when the head was thrown back, which would disappear when the head was brought upright. There was no change in resonance over the other parts of the lungs or in the respiratory murmur.

In October the cough increased in frequency and severity and resisted all treatment. The child became very pale and thin; his whole face, particularly under the eyelids, was puffed, and little broken capillaries were visible over the cheeks. This condition persisted until the middle of February, when he was taken sick with croupous pneumonia. What parts were involved, and to what extent, can not be stated, says the author. Formerly the patient had been very tractable, but during this sickness he fought so strenuously against an examination that it had to be abandoned. The diagnosis was based upon the temperature, the perverted pulse-respiration ratio, the subjective symptoms, and the mode of termination. During this sickness the cough lost its croupy character and assumed a hacking quality, and the patient coughed up and swallowed some secretion. While resolution was going on the cough changed again and became croupy. In April there was an attack of bronchitis accompanied with an increase in the frequency of the cough. Twice during the winter there had been an offensive diarrhea, the last attack of which had persisted for three weeks and been hard to control. Except during the attacks of pneumonia and bronchitis, there was no acceleration of respiration or any dyspnea. Occasionally the temperature was elevated, but never for more than five days; the rectal temperature never rose above 102°F. No treatment had any effect on the cough, and any slight exposure to a draft would always increase it.

In studying the case over, says Dr. West, it was recalled that while the child had been taking a mixture of creosote and bismuth for diarrhea there had been some amelioration of the cough. As it was thought this had probably been due to the creosote, it was again given to him in $\frac{1}{2}$ drop doses four times daily. In ten days the cough lost much of its croupy character and diminished considerably, and in two weeks more it ceased entirely. Three weeks later it returned, but the renewed administration of creosote had a very perceptible effect on it. Once again during the winter it was promptly checked with the drug. Since the cessation of the cough, says the author, the child has become stout and is in good health. There is still more than the normal dullness over the upper part of the sternum, and the venous hum can still be elicited; both, however, are slowly disappearing. The face remains full and the broken capillaries are plainly to be seen.

The second case was that of a sister of the first patient. When she was seven months old, and apparently in her usual health, the cough made its appearance, and she was immediately placed under the author's care. At this time there was no coryza, bronchitis or other disturbance of the pulmonary system or of the alimentary canal, or any fever. She had been rather costive during the summer, and was still, and an occasional enema was required. There was no dullness over the sternum, but a very mild hum could be heard when the head was thrown back, which would disappear when it was upright. It was ten days before the cough was heard again,

when it became frequent, and the physical signs of the enlarged glands were more distinct. A fifth of a drop of creosote had been given in the meantime. By the end of three weeks she was able to digest modified cow's milk, although in this time she had lost a pound and three quarters in weight. A modified milk which represented a very small percentage of proteids was then given and finely digested, and on this she thrived. With this and the creosote increased to half a drop four times a day, the cough gradually diminished, and in a month it was gone. For three months the venous hum could be heard, but now no signs of the enlarged glands could be detected.

When the author saw the first patient it seemed to him that the enlargement of the glands was an acute process due to the bronchitis. There was no question as to specific trouble, and there were no indications that it was due to any morbid deposit or new growth, except possibly tubercle. From the fact that there was no pain or soreness at any time, and from the rapidity with which the peculiar cough and the physical signs were manifested, it would appear, he says, that there had been considerable enlargement prior to the onset of the bronchial catarrh, and this quickly caused a greater increase in the size, which remained permanently. For a period of two or three weeks before the advent of the cough the child had not been feeling well. There was no definite ailment, but there were peevishness, a desire to be let alone, impaired appetite, and slight feverishness at times. The appearance of the same symptoms in the second case, without any local trouble and with only the impaired nutrition that had existed all the summer, would lead one, he thinks, to conclude that the tubercle bacillus was the cause in both cases.

As a rule these glands become smaller and smaller after a time, but the effect of the creosote on the symptoms, objective and subjective, was most marked, particularly in the first case.—*N. Y. Med. Jour.*

Bromoform in Whooping-Cough.—Marfan recalls that three years ago, after a trial of a number of remedies for whooping cough, he expressed the opinion that antipyrin and belladonna were alone worth retaining, and that antipyrin was of the two the more efficacious. He now (*Rev. des Mal. de l'Enf.*, April, 1896) states that he has since found bromoform superior to either. At the beginning of treatment he gives daily 4 drops of bromoform for each year of the child's life. This is the quantity for the twenty four hours, and is divided into three doses. For children between 5 and 10 years of age he begins with 20 drops in the twenty-four hours. For infants under six months he begins with a daily quantity of 2 or 3 drops in three doses. He finds that for the first two or three days there is no improvement, but rather an aggravation; then improvement is manifest both in the number of paroxysms and in their severity. Vomiting ceases and appetite returns. If this result is not obtained the doses should be increased by 2 or 3 drops a day until the amount is

doubled. He found it to fail very seldom, but in these cases the subsequent administration of antipyrin was successful. In only one case did he see any symptoms of general poisoning. There was drowsiness, but not sufficiently marked to lead him to discontinue the remedy. Bromoform is not soluble in water, and Marfan found the alcoholic solution recommended by Stepp objectionable. The prescription he used was (in British weights and measures) bromoform, 48 drops; almond oil, 5 drachms; gum tragacanth, $\frac{1}{2}$ drachm; gum arabic, 1 drachm; cherry laurel water, 1 drachm; water to 3 ounces. The bromoform was first mixed with the oil and well shaken, and the other ingredients added afterwards. One drachm of this mixture contains 2 drops of bromoform.—*Brit. Med. Jour.*

Micro-Organisms and Digestion.—Nencki (*Vratch.*, No. 7, 1896) during the past ten years has been investigating the question as to what part is played by micro-organisms in digestion. He has come to the conclusion that they possess the property of changing the insoluble forms of carbohydrates and albumen into a soluble form. As regards the question whether the action of micro-organisms is necessary for the normal process of digestion, Nencki endeavors to prove that it is not. The grounds upon which he bases this conclusion are as follows:

(1) The acid of the stomach destroys the majority of the micro organisms; only a small number escape this fate, and get with the food into the intestinal tract. In the small intestines their action is confined to the decomposition of the carbohydrates and the formation of lactic and succine acid, alcohols, etc. The decomposition of albumens and the formation of the aromatic bodies, such as phenol, cresol, indol, scatol, and of the different acids under their influence, takes place only in the large intestine. Experience shows—the author mentions one case of his own observation and one of Zankowsky, of Warsaw—that one can live very long without the large intestine, if there is an artificial anus near the ileo cecal valve.

(2) Newborn guinea-pigs were put into a closed bell, and kept on a sterilized milk diet, the respiratory air being also sterilized. After a time the animals were killed, and all the organs were found to be quite normal. Microscopical investigations of the intestinal tract failed to show the presence of any micro-organisms. The time will come, says the author, when we shall be able to remove micro organisms entirely from our food, but at present we can only say that they are only hurtful, and not in any way beneficial.—*British Medical Journal.*

The Employment of Sodium Bicarbonate in the Treatment of Different Forms of Dyspepsia.—The *Journal des Praticiens* for April 11, contains an article on this subject by M. G. Linossier, who remarks that this drug is useful in deficiency of hydrochloric acid only when this affection is not due to

a profound alteration in the glands (*N. Y. Med. Jour.*) The essential condition of its action is that the mucous membrane should be still excitable; the amount of the dose is also a very important question. A very small dose produces an insufficient excitation, and with too large a dose the excitation produced is only to neutralize the alkalinity provoked by the ingestion of the medicament. A medium dose, then, says the author, should be employed, so that after a slight alkalinity the gastric contents may acquire an acidity greater than that usually present. It is impossible, he says, to give an idea in figures of small, medium, or large doses, for, in reality, the amount can not be absolutely determined; it is relative only to the gastric condition ascertained. The author explains the relation between the gastric acidity and the proper dose of sodium bicarbonate by saying that the sensitiveness to the action of this drug is in inverse ratio to the richness of the gastric secretion in hydrochloric acid. The doses should be reduced in proportion as the deficiency of the acid becomes more marked. If it is very intense, not more than eight grains should be given, for the digestion of a larger quantity would be too much work for some stomachs. If the deficiency is moderate, the dose may be increased to fifteen, thirty, or even forty-five grains. The author thinks, however, that there are some inconveniences in regard to the remote action of the drug if patients suffering with this affection are subjected to this habitual use of large doses, and that it is better to employ doses not exceeding thirty grains.

With regard to the time of administration, says M. Linossier, it is better to give it before meals, so that alkaline saturation may take place before the food enters the stomach, when it comes immediately in contact with the mucous membrane which is in a complete condition of secretory excitation. The larger the dose the longer should the interval be before eating; a quarter of an hour is sufficient for a dose of eight grains, but an hour is necessary for large doses. It is difficult, says M. Linossier, to lay down absolute rules in this respect, for the rapidity with which sodium bicarbonate is digested is very variable, but we may be guided by the following subjective symptoms: The ingestion of this drug by dyspeptic patients when fasting is followed by a feeling of satiety analogous to that caused by a very light meal; this sensation gives place, when the drug is digested, to a feeling of hunger. If the ingestion of food is deferred, and the excited mucous membrane continues to secrete, the patient experiences a sensation of tearing which occasionally produces pains. These symptoms, says the author, are not always very distinct, but when they are present they are an excellent guide. Sodium bicarbonate should be given at such a time that the hour for the meal coincides with the feeling of hunger. The employment of this drug should not be too prolonged; a period of from two to three weeks with intervals of rest is sufficient. This, says M. Linossier, is the surest means of obtaining a remote exciting

action, and there is no danger of giving rise to depression.

In regard to the employment of sodium bicarbonate in cases of excess of hydrochloric acid, says the author, the chemical alkaline action of the drug may suppress the cause of the pain and uneasiness, which are due to the contact of the mucous membrane with a very acid liquid. It may be doubted, he says, whether the exciting physiological action is not too much for a stomach already greatly excited; this action, however, is not a contraindication to the use of the drug, provided it is administered in such a way as to prevent any ill effects. For this, it is sufficient to give the sodium in divided doses during the course of digestion, each dose being too small to cause complete saturation of the gastric contents; there is no alkalinity, and therefore there is no violent excitation. The fresh ingestion of each dose, moreover, destroys the effect of the preceding one in saturating the acid which is secreted anew. The doses may vary from fifteen to thirty grains, according to the intensity of the excess acid. The first dose should be given before the probable appearance of the pain; this is easy to determine, as the majority of patients are attacked at an invariable time before eating. The succeeding doses may be given every hour or, if necessary, every half-hour until digestion is finished. M. Linossier urges the necessity of prescribing the drug before the appearance of the pain, as it is generally easier to prevent it than it is to allay it when it has become established.

The tolerance displayed by the organism for this drug is, says the author, remarkable, and the inconveniences of large doses are few as compared to their advantages. Sodium bicarbonate may be prescribed alone or mixed with other drugs. The following prescription is often made use of by M. Linossier:

R.	Sodium bicarbonate,	-	-	300 grains.
	Calcined magnesia,	-	-	75 "
	Bismuth subnitrate,	-	-	30 "

M.

This quantity may be divided into twelve or twenty-five capsules, according to the intensity of the acidity, and the proportion of magnesia and that of bismuth subnitrate may be varied in accordance with the intestinal functions.

The remote action of sodium bicarbonate, says the author, is shown by the excitation and after by the depression of the secretion. The period of excitation is very distinct in many patients treated by this drug, and after a few days the original doses, which sufficed to allay the pain, become too weak to saturate the over-acidity, and they must be increased gradually. The depression is the theoretical result of an intense and prolonged treatment, and it occurs in patients in whom excessive acidity is not very marked. After a certain time the dose may be diminished by degrees and finally suppressed.

M. Linossier calls attention to the fact that in severe acidity, especially if it is accompanied by oversecretion,

the sensitiveness to the action of this drug is greatly diminished, and frequently only a palliative effect is obtained.

The Early Diagnosis of Tuberculosis by Tuberculin.—Grasset and Vedel (*Sem. Med.*) communicated the results of trials with tuberculin as an aid to the early diagnosis of tubercle in man to the Académie de Médecine, which had approved of its use for that purpose in cattle. Twenty-five injections were given to 14 patients suffering from (1) spinal meningitis, (2) Addison's disease, (3) cerebral meningitis, (4 and 5) infiltration of the apex of the lung without bacilli in the sputum, (6) old pleurisy, (7) recent pleurisy, (8) old cured arthritis of left shoulder with apical bronchitis, (9, 10, and 11) phthisis with bacilli in sputum, (12) locomotor ataxy after syphilis, (13) syphilitic meningo-myelitis, (14) doubtful intracranial tuberculosis. The authors think this agent has fallen into undeserved disrepute, perhaps owing to too large quantities being used, the most serviceable dose being two-tenths to three-tenths of a milligramme of tuberculin for the first and half a milligramme for a second injection, diluted to 1 in 2,000. Conclusions: (a) In these doses tuberculin is quite harmless, and there is no risk of aggravating an existing tuberculosis. (b) In cases 1 to 5 sufficient reaction took place to make a diagnosis of tuberculosis certain. (c) In Nos. 6 and 7 reaction was absent or doubtful. (d) Absence of reaction does not exclude tuberculosis, since there was none in Nos. 9, 10, and 11. This may be explained by supposing the organism to be accustomed to the toxin, when these small doses would be useless. However, in advanced cases this test is not required. (e) No. 13 showed a slight reaction. It is known that syphilis, leprosy, and actinomycosis may react to tuberculin, and so the test is useful only if these do not complicate the case.—*Brit. Med. Jour.*

Hepatic Pseudo-Cirrhosis.—Pick (*Zeitschr. f. klin. Med.*) describes a cirrhosis of the liver consequent upon the circulatory obstruction due to pericardial lesions. There is at times a clinical difficulty as to whether a hepatic enlargement with more or less ascites is a primary or secondary disease, especially where there are obvious physical signs of a valvular lesion and hardly any of back pressure. The author relates three cases of this pseudo-cirrhosis of pericardial origin. (1) A man aged 42, had suffered from pericarditis three years previously. Some months later there was enlargement of the abdomen and liver. Subsequently there was much ascites, requiring frequent tapplings. At the necropsy there was an old pericarditis and an atrophic nutmeg liver. (2) A man, aged 29, noticed swelling of the abdomen eight years previously. Subsequently the liver was found enlarged. There was abundant ascites and frequent tapplings. At the necropsy there was adherent pericardium with calcification and cirrhosis of the liver. In these cases there was a chronic pericarditis without the usual physical

signs and an obstruction to the circulation almost limited to the liver and portal circulation. There was no evidence of a valvular lesion. It is known that a marked degree of pericarditis may exist without the characteristic signs (latent pericarditis). The usual rule that the circulatory obstruction in cardiac lesions chiefly finds expression in edema has exceptions. In the cases under discussion the ascites preponderated greatly over the edema. The author gives reasons why the pericardial lesion in these cases can not be regarded either as secondary to the hepatic cirrhosis, as some have supposed, or as an entirely independent disease. The anatomical appearance of such a liver corresponds to the cyanotic induration or atrophic nutmeg liver of cardiac disease. Such an increase in the connective tissue element in the liver can account for the circulatory obstruction most marked in the portal circulation. The clinical picture of a mixed form of hypertrophic and atrophic cirrhosis with marked ascites and without general dropsy, with enlargement and induration of the liver and eventual slight jaundice, suggests the possibility of this pseudo cirrhosis. The author records another case (3) in which the diagnosis was made during life. Here the old pericarditis was tuberculous in character. The diagnosis is important from the point of view of treatment, for these cases should be treated with cardiac tonics and diuretics. In a recent case the author saw considerable diminution in the size of the liver under diuresis. This pseudo cirrhosis occurs in younger subjects, but is also seen in later life.—*Brit. Med. Jour.*

Virulence of the Diphtheria Bacilli.—At the meeting of the Association of American Physicians, Dr. H. M. Biggs, of New York, read a paper upon the "Virulence of the Diphtheria Bacilli Occasionally Found in the Throat in Cases Presenting the Clinical Features of Tonsillitis." This paper gave a history of the investigations carried on by the New York Board of Health to determine the status of those cases of supposed follicular tonsillitis in which diphtheria bacilli were found. When cultures made from the throat secretions of these cases showed the morphologically typical diphtheria bacilli, tests for virulence made on guinea-pigs almost invariably showed that the bacilli were virulent. The bacteria which were used for obtaining the antitoxin of greatest virulence were, he said, from a case diagnosed as follicular tonsillitis.

Dr. W. H. Welch said it was a very important matter to the physician to know that a number of cases that he would confidently diagnose as diphtheria were really false diphtheria. His experience in Baltimore was that pseudo-diphtheria was in nearly all instances genuine diphtheria, the Klebs-Löffler bacillus being found in 90–93 per cent of the cases. The point he wished to emphasize was that of the cases which a physician would confidently diagnose as diphtheria the Klebs Löffler bacillus would be present in something over 90 per cent of the cases. These results were extremely valuable,

and he agreed in the main with Dr. Biggs in the contention that all diseases of the throat in which the Klebs-Löffler bacillus was present should be regarded as diphtheria, whether they presented all the morphological peculiarities of diphtheria or not. Dr. Biggs had very properly pointed out the fact the statistics of antitoxin did not show a case of this kind where the expected results had not been obtained. The report of the hospitals in Philadelphia on the use of antitoxin showed that the treatment was generally begun too late to show the effects of the antitoxin, and that only the more serious cases were included, and this had had great influence on the physicians of Philadelphia.

Dr. S. J. Meltzer, of New York, said that the statement that inflammatory diseases of the throat in which Klebs-Löffler bacilli were present were really cases of diphtheria could hardly be doubted, and, on the other hand, cases in which it had not been found could not be excluded. He related a case of otitis media in which the diphtheria bacillus was found in the discharge from the ear. He had understood Dr. Biggs to say that whenever the germ of diphtheria was found the case was one of diphtheria, but there were numerous cases in which it had been found in healthy throats. In like manner pneumococci might be found in the sputum of persons who did not have pneumonia.

The President, Dr. Abraham Jacobi, took issue with Dr. Biggs and the New York Board of Health in the dictum that every case in which a Klebs-Löffler bacillus was found in the mouth of an otherwise healthy person should be isolated and prevented from going about. He believed that this was unnecessary and uncalled for, and that there were men then present who had diphtheria bacilli in their mouths and who had never had diphtheria. He looked upon the action of the Health Office of New York in this matter as unnecessary and cruel.

Dr. Biggs said, in closing the debate on his paper, that he had not claimed that the presence of diphtheria bacilli was an indication of diphtheria unless there were an inflammatory process present. It did not make any difference whether there was a pseudo membrane present or not if the diphtheria was an inflammatory condition caused by the Klebs-Löffler bacillus. As to the absence of bacilli in some cases, or a failure to find them, it had been occasionally noticed that cultures made from undoubted diphtheritic cases did not show the bacillus. Still, in the vast majority of cases cultures properly made in all the cases would show the bacilli, but perhaps not until after many attempts. The experience of Dr. Welch in Baltimore and Philadelphia, that in a majority of cases where there was a pseudo-membrane the diphtheria bacillus would be found, was certainly true. He thought that Dr. Jacobi was wrong, and that the belief of most physicians was wrong in regard to the frequency with which diphtheria bacilli were found in healthy throats. He had made a great many examinations in this line, and in almost every instance where bacilli were present subsequent examina-

tions had proved that these persons had been in close contact with diphtheria patients. It was a rare experience to find that those who were in ordinary attendance on diphtheria patients had bacilli in their throats. Where they were found it was reasonably certain that those persons had been in close contact with a case. This was an important thing, as there was a general misconception on the subject, for the discovery of diphtheria bacilli in a healthy throat was a rare instance, occurring in only about 1 per cent of cases.—*Amer. Med. Surg. Bulletin.*

The Disposal of the Waste of Great Cities.

—At a meeting of the New York Academy of Medicine, May 6, 1896, Dr. Chapin read the paper of Chas. H. Snow, M.S.C.E., professor of civil engineering at the University of the City of New York, "The Collection and Disposal of Liquid Waste (Sewage)."

Prof. Snow divided this subject into two groups; first miasmatic, and second germ diseases. In the latter zymotic diseases were mainly present, air, water, and refuse acting as vehicles. He spoke of the influence of drainage, and said that improper drainage would contaminate the air, and in this way germs would be disseminated. As to water, it contained both organic and inorganic matter, the natural inorganic matter containing algæ, insects, etc. In referring to stagnant water it was not understood to mean "quiet" water, but water that was impure. Water may become impure from a deficiency in oxygen, the deficiency being occasioned by artificial means. Water may also be spoiled by sewage, this being in a great measure due to man's presence, the excreta from that source contaminating the water supply.

One plan of getting rid of sewage is by filtration, as carried out in London and some American cities; and in this connection mention was made of cities owning their own plant for the purpose.

In the collection and disposal of sewage it becomes necessary to keep it fresh until it reaches the point of delivery; although gases formed by the decomposition are not harmful of themselves, the sewage is detrimental in acting as a vehicle for conveying disease germs.

It is necessary to collect sewage by means of pipes; it may be gathered as in Paris, where tanks and tube are in use, and the matter is then conveyed to different stations for final disposal before decomposition has taken place.

Automatic disposal is, however, the best method; that is, by means of pipes of sufficient size to allow a steady flow under natural pressure. The pipes should not be too large, as this would invite stagnation; and if this occurs deposits form on the sides of the pipes. A good plan is to have manholes at intervals placed at right angles to the main pipe; in this way a current is produced and a continuous flow takes place. There should be no uneven joints where accumulations might form. Care should be to have the pipes properly aligned for the same reason. Moreover, they should

not be porous. The best form of a pipe is an egg shaped one.

The plan of separate disposal of liquid matters is the best; that is, to have different pipes for sewage and subsoil water. Memphis was the first American city to adopt this system, which was done under the direction of Col. Warning, of this city.

In the separate system the subsoil water passes through porous pipes, and on this account it is desirable to adopt this system in large cities, because of the great quantity of water used.

After the collection the question of disposal of sewage either into cesspools or large bodies of water presents itself. In some towns and villages cesspools are made use of, but this method is to be condemned unless the receptacles are lined with water-tight materials. When sewage is emptied into large bodies of salt water it is innocuous, and especially when emptied at tide-water; the danger to health arises when sewage is allowed to flow into rivers on the banks of which there are several towns below, the water becoming contaminated and giving rise to various diseases. It was formerly supposed that, because the water did not respond to chemical tests there were no bacteria present. This is, however a mistaken idea.

In order to render sewage as harmless as possible the solids may be removed by sedimentation (allowing the solids to settle down by checking the flow of water through it); or these may be separated by precipitation, which is produced by chemical action forming what is known as "sludge," and which may be sold and used for the purpose of fertilization.

In concluding Prof. Snow said that the public good often had to give way to party policy. He also said that good work cost no more than poor work, as the latter had generally to be replaced. Work should not be given to those who need it, but to those whom the work needs.—*Amer. Med. Surg. Bulletin.*

SURGERY.

Angiomyopathy.—Marinesco (*Sem. Med.*, Feb. 15, 1896) describes under this name a form of progressive muscular atrophy due to disease of the bloodvessels which differs from all hitherto published cases. A man, aged 59, with a neurotic family history, had enjoyed good health till he was 20 years old. Then a testis became tuberculous, but recovered. In 1865 he had an attack of melancholia. In 1885 attacks of angina pectoris began, and at the same time intermittent limping with cramps in the right calf after walking any distance. This continued two years, and his mental condition became normal. By 1887 the cramps had spread to the anterior surface of the leg and foot and to the heel. The skin over the affected part was thickened with numerous superficial veins, but no varices. Then the limping disappeared spontaneously and the melan-

cholia returned. In 1892 the intermittent limping and cramps reappeared, with progressive atrophy of the right calf muscles, the mental state again becoming normal. Gangrene of the right great toe followed. Then there was no pulse in the posterior tibial artery; all the right lower limb was cold and atrophied; sensation was normal; cutaneous and deep reflexes normal; electric excitability of muscles lessened, but no R. D. Amputation was performed in the middle third of the leg. Death occurred suddenly a month later; no post-mortem examination. The amputated limb was slightly edematous; muscles yellowish and gelatinous; anterior and posterior tibial arteries and the arteries of the foot were rigid cords, but there was no atheroma. Their lumen was narrowed and in places obliterated. Popliteal and posterior tibial nerves normal. Microscopically the arteries had all the signs of progressive arteritis obliterans, and there was a thrombus in the plantar artery; the veins were not thrombosed but hypertrophied. The same lesions were found in the muscular veins and arteries, the former being most affected. The intra muscular nerves were quite normal. This distinguishes this case from those published previously, where nerve—and in Schlesinger's case, muscular—lesions occurred in the course of arteritis obliterans. The muscular fibers presented various appearances, which could be reduced to those of the different stages of coagulative necrosis—or, according to Babes, of hyaline degeneration—the coagulated parts staining deeply with aniline dyes. The final stage was the absorption of the disintegrated myosin by the proliferated nuclei of the sarcolemma—hence called "myoclasts" or "*myophages*" by the author. The muscular fibers thus disappear, their place being taken by hyperplasia of the interstitial connective tissue. This process is essentially the same as that which occurs in many other muscular atrophies, and is not peculiar to angiomyopathy. Diagnosis: Intermittent limping and pain or cramps coming on after walking for a time are characteristic of arteritis obliterans. If with this there is muscular atrophy with lessened galvanic and faradic excitability, but no R. D. and no objective sensory troubles, the disease is probably of vascular origin. Angina pectoris was present in this case and has the same etiology, namely, ischemia. Thus, the pains, cramps, muscular atrophy, angina pectoris, and cutaneous gangrene were episodes in the course of arteritis obliterans.—*Brit. Med. Jour.*

A New Method of Disarticulation at the Hip.—Quenu (*Revue de Chir.*) has recently communicated to the Societe de Chirurgie a new method of removing the lower extremity at the hip, by which bleeding in the course of the operation may be reduced to a minimum. After double ligature and division of the common femoral artery and vein, he traces an internal flap, the length of which is equal to the diameter of the root of the limb. At first the skin only is incised and freely detached from subjacent parts. The sheath of the femoral vessels is next opened along the inner bor-

der of the sartorius, and the attachments of these vessels to surrounding muscles are separated by the finger. The pudic arteries are now tied, together with the internal saphenous vein near its opening into the femoral vein. The internal circumflex artery is then tied at the middle of the external border of the pectineus. The external or superior border of the adductor brevis having been drawn inwards, the femoral artery is displaced inwards and the profunda and its muscular branches are exposed. This artery is now ligatured and the long and short adductors and the internal vastus are divided. The sciatic nerve and its accompanying artery are next exposed and divided. After rapid section of the rectus, sartorius, and gluteal muscles, the head of the femur is disarticulated or the bone sawn through just below the colyoid cavity.—*Brit. Med. Jour.*

Results of Ligature of Large Venous Trunks.—Brohl (*Centralbl. f. Chir.*) reports two cases which show that large veins may be ligatured without consequent mischief in the corresponding limb. In the first case the common femoral vein was wounded during the removal of a large sarcomatous growth from the right groin. As the opening in the vessel was about three quarters of an inch long, and nearly half an inch wide, it was found impossible to close it by a lateral suture. A double ligature was therefore applied, and the intervening portion of vein excised. Beyond slight edema, which disappeared on the eighth day, there was no change in the condition of the lower limb. The second case was one of wounding of the left innominate vein during the excision of a small melano-sarcoma from the neck. As the tumor on exposure was found to be closely connected with the subclavian and innominate veins, the left clavicle was sawn through, and the adherent portions of these vessels removed, together with the growth, after double ligature of each. No immediate results, not even edema of the upper limb, were noticed after this operation, but four months later slight dilatation had occurred in the cutaneous veins of the front of the chest on the left side.—*Brit. Med. Jour.*

Radical Treatment of Prostatic Hypertrophy.—Bruns (*Mittheilungen aus den Grenzgebieten der Medizin und Chirurgie*, Bd. I, Hft. 1), from a careful study of available clinical records, draws the following conclusions on the present position of castration as a method of treating hypertrophy of the prostate (*Brit. Med. Jour.*): The results of this operative treatment agree with those of experimental research in showing that there is a close physiological connection between the prostate and the testes, and that the development and healthy condition of the former depend on the integrity of the latter organs. In a large proportion—83 per cent—of 148 cases collected by the author, castration was followed by a decided wasting of the enlarged prostate. This wasting usually begins very soon after the operation, and in the course of a few weeks the or

gan is reduced to almost its normal volume. In the soft and succulent forms of prostatic enlargement the prognosis of castration is more favorable than in cases in which the prostate is tough and firm. There can be no doubt that castration is followed not only by reduced vascularity of the enlarged prostate, but also by shrinking and fibroid degeneration of the glandular tissue. As the vascular supply of the prostate is independent of that of the testes, this atrophic change can only be attributed to a nervous influence. Although after castration the restoration of the functions of the bladder is less certain than atrophy of the bladder, the surgeon may fairly anticipate that the operation will result in decided relief in a large proportion of cases, and in complete cure in a few. Bruns arranges the successful cases in three groups. In the first, which comprises cases of dysuria without retention, the operation usually results in cessation of the frequent and urgent desire to pass urine, and in diminished frequency of micturition. Even after long-continued dribbling the urine may at the patient's will be discharged in a full stream. Prostatic subjects suffering from retention, who for some few weeks only before the operation have been compelled to use the catheter, are, as a rule, enabled to dispense with this instrument, and to pass urine spontaneously. Those who have suffered from chronic retention, which has necessitated for many months or even years, the habitual use of the catheter, may be released, after castration, from the necessity of thus emptying the bladder. In about a third of such cases such improvement follows the operation that the catheter can be used less and less frequently and with greater ease. In most cases which have been treated by operation there is, if not complete cessation, considerable alleviation of the symptoms of vesical catarrh. Double castration, though an easy operation, and in itself free from any immediate danger, is open to a serious objection even in patients of advanced age. Cases have been recorded in which it has been followed by nervous depression and mental apathy. For this reason the author thinks that a fair and extended trial should be made of simple resections of the vas deferens. The results of this operation have hitherto been encouraging, but further experience, he thinks, is required before any conclusive estimate can be formed as to its efficiency. At present the most certain method of treating prostatic hypertrophy, especially in the earlier stages of the disease, is double castration.

OBSTETRICS AND GYNECOLOGY.

Echinococcus of the Pelvis and Abdomen.—Pooth (*Centralbl. f. Gynak.*) reports a case of a woman, aged 27, who had been subject to pain and hypogastric distension for several months. Two large fluctuating swellings were detected in Douglas' pouch; they simulated ovarian cysts. The abdomen was

explored on September 7, 1895. Three cysts were shelled out of the omentum; they were as big as hen's eggs. Two were found, each as big as a fetal head, one was enucleated from Douglas' pouch. Minute cysts were disseminated all over the pelvic peritoneum. On September 17, as Douglas' pouch was very much distended by a tense cyst, an incision was made. A quantity of echinococcus cysts came away. The cavity was packed with iodoform gauze, and washed out daily with a carbolized lotion, and cysts continued to come away. Then swellings appeared in both groins. An incision 3 inches long, was therefore made in each inguinal region. Cysts as big as eggs came out; another developed in the left hypochondrium. It adhered to the parietes; after being fixed by sutures, to make sure, it was opened. Over 3 pints of fluid with masses of cysts were withdrawn. The cavity was packed with iodoform gauze, and washed out daily. But the cysts extended, pushing the diaphragm upon the right side. On November 3 a rib was resected. Over 2½ pints of sanious fluid escaped; on puncturing the diaphragm it contained numerous hydatid cysts. The patient died on the third day. The liver was found quite free from cysts. The primary seat of hydatid disease could not be determined. Brohl, in discussing Pooth's case, showed how uncertain is the course of hydatid disease in the abdomen. Four years ago he operated upon a woman who had a fluctuating swelling extending from the hypogastrium up to the right hypochondrium where the ribs were pushed outwards, together with the outer edge of the liver. As a cyst was found extending to the ribs it was fixed by sutures to the wound, high up, and opened a few days later. A great quantity of hydatid cysts of all sizes were discharged. A little later, when dulness on percussion was detected in the left flank, a small aperture was found in the left side of the cyst already opened. It was dilated, and handfuls of hydatids came away. The temperature rose, and the enormous double cavity was frequently syringed out. The patient recovered and remains well, though in its early stage this case seemed worse than Pooth's. —*Brit. Med. Jour.*

Echinococcus of the Fallopian Tubes.—Doleris (*La Gynecologie*) has collected no fewer than 79 cases of hydatid disease in the female pelvis; 40 occurred in his own experience. Of these 4, 1 was an example of echinococcus of the Fallopian tubes, and apparently unique. The patient was 36, the daughter of a butcher, and subject from girlhood to menorrhagia. When 24 she married a butcher. Slaughtering of sheep and calves was done nearly every day on the premises, and there were two bulldogs in the house. Hypogastric pains set in towards the end of the first year of married life. A few months later constipation and dysuria complicated the pains. Eight years before operation a doctor detected a large tumor. The menorrhagia evidently misled him, and he gave ergot. Steadily and slowly the swelling increased. When Doleris examined

her he found a very irregular tuberculated tumor filling the pelvis, reaching the epigastrium, and of the volume of a gravid uterus at the seventh month. It felt hard and elastic. The pelvic part was fixed; the part in the abdomen, which was very nodular, so that the nodules pushed forward the thin abdominal walls, was to a certain degree movable. The abdomen was opened. The tumor did not adhere to the parietes, but the omentum was firmly incorporated with it, and there were strong adhesions to the rectum, cecum, vermiform appendix, bladder, and fundus. The latter had to be partially cut away with the tumor, the cut surface of the uterus (as well as a large raw area in Douglas' pouch) being touched with thermo-cautery. The uterus was then fixed to the parietes. The tumor weighed nearly 4½ lbs., and at its broadest portion measured 12½ inches. It consisted of two Fallopian tubes enormously distended and full of hydatid cysts. This distension was phenomenal and far greater than is ever seen in the largest hydrosalpinx. The length of the two tubes was over 42 inches; of course the convolutions were very pronounced. The adherent pelvic peritoneum, which came away with the tumor, was riddled with minute hydatid cysts. The patient made a good recovery.—*Brit. Med. Jour.*

NOTES AND ITEMS

The Esquimaux gives the doctor his fee as soon as he comes. If the patient recovers he keeps it; otherwise he returns it to the family.

The Deaths from Alcoholism in Sweden amount to 90 per thousand. This is the highest rate in the world

The Medical Society of Virginia will hold its twenty-seventh annual meeting at Rookbridge Alum Springs on September 8–10, 1896, instead of at Danville as was previously announced.

The Medical Society of Berne has inaugurated a plan for the suppression of press notices of suicides, as it has been observed that epidemics of suicides, so-called, come from "suggestion," acquired through printed accounts of them.

Innumerable and Enormous Lies have been printed about the omnipotent X rays, they (the lies) have been copied and recopied in the lay-press as well as in some medical journals, but that the German Emperor has had his left arm skiagraphed "preparatory to an operation which is expected to give him partial if not complete use of the now useless member," is one of the most outrageous and evident lies that have ever been circulated [the quotation points are ours].

Dr. Playfair is tired of the law, and has compromised his case with Mrs. Kitson, paying her some \$50,000 including costs, instead of the \$60,000, which was the amount of the judgment. It will be remembered that the appeal has heretofore been withdrawn.

New Hampshire Medical Society.—The one hundred and fifth meeting of the New Hampshire Medical Society was held in Pilgrim Hall, at Concord, Monday and Tuesday, June 1 and 2, 1896, under the Presidency of Dr. Eugene F. McQuesten and Secretary Dr. Granville P. Conn, of Concord, N. H.

Tuberculosis in Paris.—The proportion of deaths from tuberculosis in Paris is 490 per 100,000 inhabitants. In the Department of the Seine, whose population, including that of Paris, numbers over three million, the average mortality from tuberculosis, during the period comprised between 1889 and 1893, was 14,565.

The Third International Congress of Psychology will meet in Munich from August 4 to August 7 inclusive. The titles of one hundred and thirty-two papers are announced already, several of them being by English and American writers. The general Secretary is Dr. Freiherr von Schrenck Notzing, Max Josephstrasse, Munich.

The Republican National Convention, St. Louis, Mo., June 16, 1896.—For this occasion the WABASH RAILROAD has reduced the rate from all stations to St. Louis to one fare for the round trip. For particulars as to dates of sale, limits, etc., call on or address nearest WABASH ticket agent, or C. S. CRANE, Gen'l Pass. and Tkt. Agent, St. Louis, Mo.

Charles A. L. Reed, M.D., of Cincinnati, so well known as the efficient manager of the First Pan-American Medical Congress, has been selected by the European Committee on Organization of the International Periodical Congress of Gynecology and Obstetrics, as Honorary President of the meeting of that body to be held in the City of Geneva, Switzerland, the first week in September of this year.

Diphtheria.—The following resolution was adopted by the State Board of Indiana at its last meeting:

WHEREAS, It has been fully demonstrated by physicians, both in private and hospital practice, that antitoxin is the best means for the cure and prevention of the much dreaded contagious disease—diphtheria;

Resolved, That the Indiana State Board of Health, recognizing its value, does hereby indorse and advise its use by the local health officers throughout the State, both for prevention, cure, and control of epidemics of said disease.

For Sale or Lease—Hotel Riverview—For Sanitarium Purpose.—This well and widely known hotel, situated on the banks of the Kankakee River, Kankakee, Ill., 56 miles south of Chicago, is offered for sale, or for lease for a term of years, on most favorable terms. The hotel is in perfect condition, is completely and handsomely furnished, all of its appointments being strictly first-class. Artesian and mineral water on the grounds, together with seven acres of lawn and grove. Sewerage and drainage unequalled. The Riverview is well adapted for Sanitarium purposes. For further particulars, address, or apply to

JEWETT WILCOX, care I. C. R. R., Chicago, Ill., or EMERY COBB, Kankakee, Ill.

The Value of Cycling.—According to Jennings, the French Academy of Medicine has approved of moderate cycling in mild heart lesions, and there does not seem to be a dissentient voice (*Charlotte Med. Journal*). Dr. Herchell has called attention to its danger when practiced without judgment, and he and others have quoted several instances of sudden death so resulting. Moderate, graduated cycling is free from danger as a pastime to the heart, and may be of the greatest use to it when diseased; but on the other hand, the cycle is no talisman to prevent a man with a weak or diseased heart suffering from his folly, when he happens to make upon it an effort that would have caused a fatal result under any circumstances. The cases mentioned by Dr. Hammond as being suitable for cycling are simple, degenerated conditions of the muscular fibers in dilated hearts, either with or without compensatory hypertrophy, and in slight valvular affections. Sir J. B. Richardson points out that enfeebled or worn out arteries are a source of greater danger than feebleness of the heart. Venous enlargement, he adds, seems to be benefited by cycling.

The Cosmopolitan for June, 1896, contains the following: "A June Madrigal," Frank D. Sherman. Frontispiece: "So Deep the Dark Abyss," Robert Burns Wilson. "The Immortal Three" (poem), Robert Burns Wilson, illustrated. "Concerning the Independence of Cuba," the Editor. "Madrid," H. C. Chatfield-Taylor, illustrated. "A War-Time Aurora Borealis," Ellen W. Mayo, illustrated. "War," Gen. N. A. Miles, U. S. A., illustrated. "In Case of War with England—What?" John Brisben Walker, illustrated. "The Way of Fate" (poem), George de C. Curtis. "Mrs. Cliff's Yacht," Frank R. Stockton, illustrated. "The Sharpshooter," Joseph A. Altsheler. "Convicts and Bushrangers in Australia," Thomas W. Knox, illustrated. "Suburban Homes," R. Clipston Sturgis, illustrated. "Hilda Strafford": A Californian Story, Beatrice Harraden, illustrated. "Dr. Pike and His Wife," Gertrude B. Stanton, illustrated. In the World of Art and Letters; The Progress of Science; Some Examples of Recent Art, by Rosa Bonheur, Lord Leighton, Eastman Johnson, Schmalz, Kennington, Stone, Davidson, Sadler. John Brisben Walker, Editor. New York. Price, 10 cents.

MEDICAL REVIEW,

A WEEKLY JOURNAL OF MEDICINE AND SURGERY.

VOL. XXXIII.

ST. LOUIS, JUNE 13, 1896

NO. 24

ORIGINAL ARTICLES

Infant Feeding.

BY E. W. SAUNDERS, M D., ST. LOUIS.

Read before the Missouri State Medical Association, May 19, 1896.

Until recently it has been accepted as true that American children are but little subject to rickets, scrofula and scorbutus. However this may have been in times past, we are confronted with the startling fact that rickets and scorbutus at least, are of frequent occurrence amongst our infant population in the cities; so common in fact, that I instinctively examine every baby presented to me, for evidences of these diseases.

Whilst I do not deny that bad sanitary conditions exert some influence, I am persuaded that to the irrational feeding of infants this great evil is chiefly due. A number of cases are due to prolonged suckling, that is to say, the child is nourished exclusively at the breast during the second half year, when supplementary feeding is indicated. Promiscuous feeding of young infants from the table, amongst the ignorant classes, is a prolific source of rickets. The sterilization of milk at high temperatures (212° and above) I believe has given a tremendous impetus to rickets in this country. I have seen a number of cases due to condensed milk, but only where it was fed to the baby too much diluted, or where it was continued into the second half year of life, when condensed milk alone is inadequate for the complete nourishment of the child. But by far the largest number of the worst cases of malnutrition is due to the use of patent infant foods, and of farinaceous substitutes for animal food. A glance at the analysis of every patent food on the market will convince the physician that not one of them is suitable for the normal nutrition of the infant. Not only so, but it is impossible in the nature of things that any dessicated food can be devised that can supply all the physiological needs of the infant. If we refer to the analysis of human milk we find it about as follows, dispensing with small fractions percentages:

Water		86.8
Lactose		7
Fat		4
Casein		1
Lact albumin		1+
Salts		.2

This is the ideal nutritive fluid for the infant. The analysis of cow's milk is about as follows:

Water		87.15
Lactose		4.50
Fat		3.75
Casein		3.25
Lact-albumin		.60
Salts		.70

Beyond all controversy, cow's milk modified in one of various ways, is the only possible form of food, apart from mother's milk, which can be utilized for normal infant feeding.

Let us examine the differences which exist between the two milks. The lactose is chemically, as far as we know, identical in the two milks. Quantitatively it is 2 or 25% more in human milk than in bovine. The fat exists in the form of an emulsion in both, but there are very important differences, and it is still a moot question whether in cow's milk the fat globules are surrounded by an albuminoid envelope, whereas in human milk no such doubt exists. Then again, in human milk, the fat is more fluid, the melting point is lower, as it contains a larger proportion of olein. Most important of all is the difference in the size of the globules; under the microscope they are seen to be far smaller in human than in bovine milk. The salts are nearly four times as much in bovine as in human milk. However, all these differences sink into insignificance beside the difficulties which we encounter when we come to contrast the proteids. More than one-half (1 to 1.25) of the proteids of human milk exist in the form of lact-albumin, whereas, in bovine milk it occurs in the proportion of little more than one-half of one per cent. The two caseins are totally different bodies; the casein of human milk is yellowish, and alkaline in reaction, and precipitates as soft fine flakes. The casein of cow's milk is white and acid in reaction, and precipitates in the form of large curds. Many plans have been devised for the modification of cow's milk so as to make it more digestible for the infant. Meig's plan is to use the top milk; that is, to allow the milk to stand until all the cream has risen, and then carefully to take off one-half,

or one-third, and dilute this with an equal quantity of water, adding about 4.5% of sugar and 5 to 10% of lime water. By this means the albuminoids are brought down to about 2%; albeit the casein has lost none of its objectionable features; the fat is preserved in very nearly the proper percentage, and the addition of sugar, preferably cane sugar in my opinion, is easily made. Another plan is, to the diluted top milk, to add a peptogenic powder, thus partially predigesting the casein, so as to prevent its forming large curds in the stomach. Perhaps the most popular modification of cow's milk is in the form of condensed milk. It requires the addition of eight or nine volumes of water at the time of its administration, in order to reduce it to about the strength of whole milk, diluted one half. Obviously it is impossible to use it in any greater concentration, as the amount of sugar is too great. However, it possesses some great advantages. In the first place, milk that is at all bad is not capable of being condensed, and the addition of the large amount of sugar preserves it from deterioration for a long time, although it does not kill the bacteria that may be present. It is found practically that the process of condensation produces a molecular change in the casein, or caseinogen as it should be called, which is very advantageous. The curd produced by the action of rennet or acids on condensed milk is intermediate in size between that of human and of fresh cow's milk. The fat globules too are kept in a perfect state of emulsion by the caseinogen, so that it is impossible to separate them from a dilution of condensed milk by the centrifugal machine. The great objection to condensed milk, beside the one already mentioned, is the deficiency of fat. However, the fact that it is in such a perfect state of emulsion, and the curd in the meshes of which it is entangled in the process of digestion, is so much more digestible than that of fresh milk, makes the small amount of fat more available for nutrition. It should not be forgotten that the fat globules which remain in the milk, and those which rise to the top as cream are very different in size and therefore in readiness for absorption.

It follows from what has been said, that condensed milk should not be used for any length of time, unless it be fortified by cream, and by the white of egg if the infant is in the second half year. I will modify this statement by saying that I have often found codliver oil to take the place of cream in young infants.

Having considered the analysis of cow's milk and its modification for our purpose, let us turn to a question of equal importance, the source of supply. The evidence is overwhelming that from ten to fifty per cent of milch cows in the dairies supplying the cities of Europe and America are tuberculous, and that one-half of these cows can be relied upon to give milk containing tubercle bacilli. We are truly rejoiced to know that steps have been taken in our State to deal with this frightful danger. Tuberculosis in man is to a large extent co-extensive with tuberculosis in cows. Infants and the sick are those who suffer most. The most astonishing

fact has been developed, that cows fat enough for the butcher, and apparently in good health, are frequently affected with this disease. Recently Dr. Harbaugh, of Richmond, Va., discovered that of ten fine looking milch cows belonging to a gentleman of that city, six were highly tuberculous. It is imperative that no milk should be allowed to be sold from any cow which has not been tested for tuberculosis. The next important question is the selection of the breed of cow, the milk of which is destined for infant feeding. Contrary to the popular belief, the milk of Jerseys is entirely unsuited for the purpose. The reason is, no doubt, that the fat globules of the Jersey milk are about double the size of those of other milks. The cows should be constantly under the eye of an inspector who is not employed in the interests of the dairyman. In Switzerland, some years ago, a number of babies were made fatally ill by the milk from a certain dairy; on investigation it was found that one of the cows had an abscess of the udder. Another most important matter is, that the cows be dry fed in summer, or at least be allowed only a small amount of green grass. It is also essential that the cow be carrying a calf, as the occurrence of menstruation renders the milk dangerous to the infant. Lastly, the great question of cleanliness or sterility of milk is to be considered. At the time of Soxhlet's publications, it was thought that sterilization by heat furnished a perfect solution of this problem. However, experience has shown this to be a sad delusion. Boiling milk, or submitting it to anything like a temperature like 212°, changes the composition of it greatly, and whilst many infants can digest it, we find that some can not, and grow rickety. Pasteurization gives much better results, but we are not prepared to say that it is harmless. We know, for instance, that lact-albumin is utterly lost for the purposes of nutrition, if the milk be submitted even to a very low degree of heat. The resistant spores are not killed by a moderate heat, and those bacteria which aid digestion by converting the casein into peptones (to the extent of ten per cent) are destroyed, whilst the milk is made a more favorable culture medium for pathogenic bacteria, which may already have found lodgment in the gastro intestinal canal in the case of sick children. The true solution of the problem I believe lies in quite another direction than that of sterilization by heat. In the first place, the selection of healthy cows; in the second place, the prevention of all contamination at the time of milking, and the rejection of the first portion of the milk, which washes away the bacteria that are lodged in the ducts. If such milk, taken from selected cows, and free from all contamination, be cooled immediately by ice, it requires no sterilization.

Recently a great advance has been made in the art of infant feeding by the institution of milk laboratories, in Boston and New York. By this means a physician is enabled to prescribe whatever percentages he pleases. For instance, in a case of marasmus, where the fat and proteids are so badly borne, he can prescribe the nor-

mal percentage of sugar; one per cent, or less, of proteids; and one per cent or less of fat. It is to be hoped that such laboratories will soon be established in all large cities. The milk supply is derived from selected cows, kept under ideal conditions. This, of course, must be the outcome of private enterprise; but the very life of the nation is being so threatened by the numerous patent foods which are used in such enormous quantities, that the medical profession should demand legislation on this subject. Every person who has the care of an infant, should be required to obtain medical advice as to its diet. This indeed is as important to the life and health of the coming generation as that infants, when sick, should receive medical attention.

ACUTE RICKETS.

Reported by DR. F. R. FRY.

H. C., ten months old, referred to me as a case of spinal cord disease. Examination revealed that there was no disease of the spine or cord. The child lay in dorsal, or semi-dorsal decubitus, with thighs semi-flexed. Any attempt to extend the thighs, or stand the little patient on her feet, caused her to cry out with pain. A persistence in this kind of manipulation, or the ordinary manipulation of dressing the child, always brought on a great deal of agitation, or anguish painful to witness. In short the behavior of the child showed plainly that it suffered greatly from even slight movements of the thigh-joints, and the history revealed that there were paroxysms of spontaneous pain.

In the first five months of her life the child had lived on condensed milk. When she was five months old, at the suggestion of a friend who was feeding her child on a certain patent food, the mother changed to the latter article exclusively. The child seemed to thrive wonderfully on the new diet, and her health, the mother said, had been very good, prior to the time when I first saw her, August, 1895.

I ordered for the child moderately sterilized cow's milk; the only medicine was syrup of hydriodic acid in one-half teaspoonful doses three times a day.

She was practically well in two weeks, and has remained so since.

The mother related to me a precisely similar case which occurred in the child of one of her neighbors, except that the patent food had been substituted for mother's milk. I was not able to verify the condition of this second child.

SCURVY.

Case Reported by DR. A. J. STEELE.

February 23, 1896, I was called in consultation to see a ten-months' old female infant suffering with acute knee-joint trouble. I found the articulation swollen, painful to touch and motion, and slightly flexed. General temperature 101.5°, child pale and irritable, especially on being moved. Large, slightly ecchymosed patches scattered over the surface of body and limbs.

The gums surrounding the four erupted teeth, dark red, swollen, fungous.

HISTORY.—The infant had been sick about two weeks, with fever, hyperesthetic joints, especially those of the lower limbs, which were stiff, marked purpuric areas over the surface, first of face, then of body, slight fever, trace of albumin.

The infant had breast milk for two weeks only after birth, then was placed on artificial foods, none of which, however, could be tolerated until a certain patent food was used, which continued to be the only article of diet until its recent sickness, a period of about nine months.

DIAGNOSIS.—Of the knee-joint trouble, acute serous synovitis; of the general trouble, scorbutus infantilis.

TREATMENT.—Locally, padded splint to knee; general change of diet, dropping the patent food, and giving modified cow's milk, beef juice from rare steak, and orange juice freely.

RESULTS.—In three days, marked improvement in all the symptoms; in ten days, entirely well.

The patent food upon which the babies were fed in the cases described by Drs. Fry and Steele, invariably gives rise to the most exquisite form of scorbutic rickets, if the child be confined to that food alone for many months.

In a case referred to me by Dr. Tuholske; the child, aged 12 months, had been taken ill several weeks before with a painful disease affecting the locomotor system, which the physician in attendance finally concluded must be hip joint disease; and the child was sent first to Chicago, and then to St. Louis to Dr. Tuholske for treatment. Dr. Tuholske recognized the nature of the disease at once, and sent it to me. Any voluntary movement caused severe pain, and the little sufferer dreaded to be touched or handled in any way; the thighs were flexed, and the body kept as immobile as possible. There was no vomiting. The stools had the characteristic fetor of rickets, and were dry and white; the ribs were beaded, and there was profuse sweating of the head. The gums around the teeth were purple and swollen, but no ecchymoses in the skin, and no subperiosteal hemorrhage as far as I could determine.

The child was put upon a diet of whole fresh milk, unsterilized, although it was mid-summer, supplemented by fresh beef juice, and white of egg in sweetened water, also orange juice. Compound syrup of phosphate (Parrish's Chemical Food) was administered, a few drops at a time, given frequently through the day. Within a few days the pains were all gone, and the scorbutic appearance of the gums had almost disappeared; within ten days the child returned home perfectly well, and developed normally from that time to the present.

There is another patent food which produces a totally different complex of symptoms, ending speedily in death. The symptoms are those of cerebral inanition. The baby, which has appeared to the mother to be in good health up to the time of its seizure, sadder

ly begins to reject the food, and the nausea is so intense that the very sight of the bottle will often induce retching in the little sufferer. Insomnia is most persistent; hypnotics, if indeed the stomach does not reject them, frequently seem to have no beneficial effect. There is no fever, the fontanelles are sunken, and the countenance has the look of anguish. The eyeballs are continually rolling, and the child seems to be in a state of terror. It makes frequent outcries, but it is not the cephalic cry of basilar meningitis. The mode of death is peculiar. The mother will say that the child died in a convulsion, but upon inquiry we find that only a slight tremor convulsed the little frame and it was all over. In a case of this kind seen with Dr. Geitz, we had the satisfaction of seeing all these symptoms disappear under treatment. Nitroglycerin was dropped upon the tongue at short intervals; brandy and water administered freely; chloral was given by the rectum, and forced feeding was employed, three to four teaspoonfuls of condensed milk with cream ingested every hour. On the second day the child began to sleep, and at our next visit suddenly showed a relish for the food. The recovery was rapid and complete.

RICKETS AND HYDROCEPHALUS.

Baby Z., female, aged eleven months. Epiphysis at the radius somewhat thickened; beading of the ribs but slightly marked. Sleeps very well, 11½ hours, without waking. Has never had a convulsion. Has a good appetite; one yellow stool every second day. The mother says she has nursed the child up to the present time, but has had very little milk; and besides she has given the child one-half pint of milk a day; the milk boiled with two pulverized crackers. It also has as a drink one-quarter of a cup of fennel tea daily. The bones of the head are very soft, and have the characteristic rachitic parchment feel. The head began to enlarge when the child was two and one half months old. No instruments were used at the delivery. She has never lost a night's sleep in her life. She is easily startled. When one month old she had a spell of vomiting which lasted a week, otherwise she has never vomited at all. She has two teeth, the lower central incisors.

The dimensions of the head are as follows:

Occipito-frontal circumference, 58 mm. (22⅞ inches).
Length of fontanelle, . . . 13½ mm. (5¼ inches).
Width of fontanelle, . . . 18 mm. (7⅛ inches).

RICKETS.—HYDROCEPHALUS.

Baby J. is now one year old, and takes two cans of condensed milk each week, with one bottle of a certain patent food. She was nursed until she was five months old. About two or three weeks ago she was so sore that she could not be touched without pain; sweating about the head very marked; has never made any attempt to walk. Is very easily startled; when she is asleep everything has to be kept quiet. She does not care for more than seven ounces at a feeding. The

food is prepared by taking a quart of water, two tablespoonfuls of condensed milk, and four tablespoonfuls of a certain patent food, and this is her sole food ration for twenty-four hours, with this exception, that she took a little fruit juice, and for awhile a saucer of granula, and a very small quantity of potatoes. She presents all the marks of rickets, beaded ribs, ununited cranial sutures, a moderate degree of hydrocephalus.

Intestinal Antiseptics in Typhoid Fevers.

BY G. H. BUTLER, JR., M.D., BENTON, MO.

Read before the Southeast Missouri Medical Association.

In the treatment of typhoid fever no man can hope to secure the best results, no matter what line of treatment is employed, without giving due and diligent care to general hygienic measures, the proper ventilation of the sick chamber, the regulation of the food administered and the cleanliness and clothing of the patient. But it is not my purpose to speak of these, for each is a chapter of itself, and to attempt to go into this part of the treatment would render this paper too voluminous for its purpose.

What I wish to do is to try to impress the fact upon the gentlemen of this Society, that typhoid fever is *not* a disease which must pursue an uninterrupted course for weeks, causing the greatest uneasiness, to physician and patient, entailing great suffering, often death, leaving the patient in such a degenerated condition that convalescence is drawn into months, and that during all this time the physician must pursue an expectant plan of treatment, building up his patient, trying to palliate his symptoms and trusting to the grace of God that he may have resistance and physical strength enough to withstand the attack.

I do not wish to be understood as claiming that we can abort typhoid fever, its course checked at any time the physician may elect, or the case terminated at his pleasure, but I do claim that by the proper treatment with intestinal antiseptics, it is robbed of its terrors, course of the disease shortened and the mortality greatly lessened.

That typhoid fever is an infectious disease, caused by the admission of certain specific bacilli, the pathological changes and symptoms of which are all caused and can be directly traced to the action of the bacilli on the economy is about as well demonstrated a proposition as one could account for.

It is not our province to discuss the etiological factors in this paper.

The primary and principal seat of infection is always in the glandular structure of the intestine, Peyer's patches and the solitary glands and the pathological changes are the same practically as is seen in any other infected region of similar anatomical structure. First redness, swelling, inflammation then ulceration.

These changes are caused by the direct action of the micro-organism which are poisonous in their nature and which secrete or excrete a ptomaine or toxin even more destructive to the organism when absorbed into the circulation. Just the exact part the bacilli and the exact part the toxins created by them play in producing the different symptoms, is a matter still unsettled, but the great weight of opinion seems to be that most of the devastation is caused by the absorption of the poisonous toxins.

That, however, has little to do with the treatment of the case, for, with the one present you must have the other, and if you would rid your patient of the poisonous toxins you must direct your efforts toward the source of its supply. Believing then, as we do, that it is the work of these micro-organisms that give rise to all its bad train of symptoms and produce all its evil results, we arrive at the conclusion that there can be but two general plans of treatment.

One is the expectant plan: to try to keep your patient's resisting powers above the depressing force of the disease, meeting each symptom as it arises as best you can; the other is to go to work at the seat of the disease and may so remove the cause. Our plan is to do the latter by the administration of antiseptic medication which renders the secretions of the intestine an unfavorable culture media for the propagation of germs and to rid him of them as rapidly as they are developed. It is claimed by those who *do not* favor this system of treatment that it is not possible to reach the seat of the destructive process by antiseptic medication for the reason that it is within the swollen and ulcerated glands, that the germs multiply, that each gland is a laboratory wherein is manufactured the poisonous toxins; each solitary follicle an incubator hatching out more bacilli. To all of this and these we agree, but that is no argument against this plan of treatment. We do not claim to stop the breeding of all pathogenic organisms in these ulcerated recesses for if we could then typhoid fever could be aborted in only the length of time it required our medicaments to destroy the germs and their spores.

But would you discontinue the use of antiseptics in a case of puerperal fever because you could not apply your medicines to every part of the uterine cavity or use your solutions strong enough to kill all germs at once? Would you throw away your bichloride and iodoform because you could not destroy all the streptococci in an infected wound at once?

You have just as good reasons and are equally justifiable in doing that as you have for not making an effort to render an internal infected lesion as aseptic as an external one. But you ask: What do intestinal antiseptics do for your patients and what are your antiseptics?

After having employed the antiseptic treatment for four years in a community where typhoid fever is very prevalent, we claim that it keeps the temperature down to a safe limit; when no antipyretic measure at all is em-

ployed the evening exacerbation is very seldom over 100° or 102° in severe cases and often less.

It dispenses with the more or less dangerous practice of using the coal-tar derivatives to control the temperature and relieves you of the risk and worry in trying to use the Brandt method to accomplish the same purpose.

It entirely prevents the tympanitis and diarrhea due to the accumulation of the infectious products and when using this plan of treatment you find a diarrhea or a marked tympanitis your may be assured upon investigation you will find it due to the improper ingestion of food either quality or quantity. This is a broad assertion, but try it and you will find "the proof of the pudding in the eating."

Greatest of all, it prevents that toxemic involvement of the nervous system by preventing the absorption of the toxemic poison.

You have all seen patients suffering from profound nervous troubles whose temperature was never high enough to cause such delirium, sub sultus tendinum, dry parched tongue, total anorexia, relaxation of sphincters and that train of symptoms we designate the "typhoid state." You see that same state of things in erysipelas, pyremia and septicemia due to the absorption of poisonous material into the circulation and you see it in typhoid fever from the same cause.

Keep that poisonous substance from out the circulation and you avoid the symptoms enumerated.

Now to the point for we must not occupy too much of your time.

After having tried a number of the most popular intestinal antiseptics, I have for the past three years used naphthaline, thymol and salol exclusively, giving preference to the former and only using thymol in combination with it or using thymol and salol where the naphthaline could not be well administered, viz, to children and a few individuals who could not tolerate the odor of the naphthaline. Give it in capsule or in an infusion of marsh mallow in sufficient quantity to obtain and maintain a practical aseptic condition of the intestine. From 15 to 60 grains daily will be required to keep the stools odorless and you will have no trouble with the maximum dose except possibly a little discoloration of urine which means to reduce the dose. Have your patient's bowels *thoroughly* evacuated daily, aid his digestion if needs be with hydrochloric acid and pepsin, learn to use intestinal antiseptics properly and you will not dread your evening visits to typhoid patients.

Dr. Y. H. Bond has recently had the degree of Master of Arts conferred on him by McKendree College. Dr. Bond, who is a native of Maryland, attended Princeton College, but a week before the day on which he was to graduate he left school to enter service in the Confederate Army, hence never received his degree at that Institution.

Successful Use of Protonuclein in a Case of Extreme Anemia.

BY JOHN FERGUSON, M.A., M.D., TORONTO, CANADA.

The case that forms the subject for this short paper is that of a gentleman aged 54. He is highly educated, and has filled a number of positions of an important educational character. Previously he resided in India for several years. His health has not been good for about two years. During this period he suffered loss of flesh, strength and appetite. In April, 1895, the symptoms became more distressing, when it became necessary for him to give up his work, as private tutor, and rest. He became a patient of mine about the end of September, 1895. At this date he was a pronounced victim to insomnia. His digestion was extremely bad, suffering much pain, and frequent nausea after taking nourishment, either liquid or solid. There was an excessive amount of flatulency. The bowels were torpid. The pulse was weak, and usually as frequent as 100 per minute. There was always some elevation of temperature, sometimes as high as 102°. Continuous headache was another feature of case.

The lips and conjunctivæ were almost colorless, and the tongue exceedingly pale. The skin had a pale lemon tint. The red blood corpuscles were only 1,200,000 per cubic millimetre. The urine was normal. No organic disease could be discovered anywhere in the system.

In spite of all efforts at treatment and feeding, he gradually grew worse. I had given his wife a very unfavorable opinion of the case; and advised a consultation.

Dr. J. E. Graham saw the case with me. No other disease could be discovered than that of progressive anemia. It was agreed at this interview to place him in some hospital for a time. He was admitted into the Toronto Western Hospital on January 7, 1896. I went with him in the coupe, and really feared he would collapse on the way. When we arrived at the hospital he was in such a state of exhaustion as to be unable to walk upstairs. On being taken into his room he became unconscious, and in this condition he was hurriedly undressed and put to bed with hot bags around him. In the course of an hour or so he gradually regained consciousness.

At this stage of his disease there were varying elevation of temperature and a subnormal condition of same. He had an intense headache, and almost continuous insomnia. The bowels were constipated, and nearly everything in the way of nourishment was vomited. The patient was in a state of extreme emaciation and asthenia. There was frequently low delirium and confusion of thought. He often regarded himself as a duality.

On his admission the bowels were washed out daily with warm water, containing some boracic acid. A sponge bath. The stomach was kept empty except occasionally when he felt too

weak. He was fed on peptonized milk, egg albumen and beef juice. The headache continued, however, to a most intense degree, and no improvement in the insomnia. For the headache, acetanilid, phenacetin, salol and other agents were employed, and with only the most temporary relief. Opium, chloral, paraldehyde and sulphonal were administered from time to time for the insomnia. On one occasion thirty grains of sulphonal were given, with the result of obtaining only a few hours' imperfect sleep, followed the day after by much vomiting, great restlessness, extreme headache and feeble pulses.

He had been in the hospital a little over two weeks, and all the appearance pointed to an unfavorable termination of the case. He was now placed on Protonuclein (tablets), as prepared by "Carnrick." The enemata, lavage of the stomach, and same nourishment continued. Tablets were given every three hours. By the third day it became apparent that the patient was improving. The headache was the first symptom to become modified. In a week it had almost wholly disappeared, and at the date of writing is entirely gone.

The sleep soon became better. By the end of the first week, on the Protonuclein, he would sleep three and four hours at a time. He now sleeps from six to eight hours, and wakes with a rested and refreshed feeling. The appetite is good. He can take eggs, meat, toast, porridge, oysters, beef juice, bread and butter, milk and light puddings without the slightest discomfort. There is no nausea or vomiting; the bowels are quite regular, and no enemata or aperients have been administered for at least ten days. The temperature is constantly normal. The patient is gaining flesh and can walk about the ward and in the hall for an hour and experience no ill effects. The lips and nails have a good color, and the tongue has lost its pallor. The abdominal walls, which were extremely retracted, are now filling with adipose tissue.

The most marked change, however, is to be found in the red blood globules. When the Protonuclein was first ordered, there were not quite 1,000,000 to the cubic millimetre. Now there are 3,500,000. This is a remarkable increase when the condition at starting is borne in mind.

The progress of the patient is one of daily improvement. He will leave the hospital in 2 or 3 days, when the same line of treat will be maintained, with the addition of a mild course of massage to assist in the development of the muscles.

It ought to be mentioned that the preparations of arsenic and iron had been fairly tried in this case, and could not be tolerated in any form. During the past three days arsenic has been tentatively prescribed and so far has caused no disturbance, indicating an improved state of assimilation.

Since the above was written the patient has been out of the hospital for a short time, and improvement still continues. The sleep and digestion are now good, and the muscles are gaining rapidly in tone and size.

MEDICAL REVIEW.

EDITORIALS

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PUBLISHED UNDER THE AUSPICES OF THE
MEDICAL REVIEW ASSOCIATION

BY O. H. DREYER.

YEARLY SUBSCRIPTION, \$3.50. SINGLE COPIES, 10 Cents.

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Members of the profession who send us information of matters of general interest to our readers will be considered as doing them and us a favor, and we shall take pleasure in inserting the substance of such communications.

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Entered at the St. Louis Postoffice as Second-Class Matter.

Jenner's Discovery.

It is an old observation that people who are accidentally inoculated with cow-pox possess a peculiar immunity against small-pox; an observation, however, which, before Jenner's time, was looked upon as a superstitious folk lore. It was Jenner's great merit to experimentally prove the truth of the immunizing power of vaccination against small-pox. His observations connected with this subject extended over a period of over twenty years and it was at the end of this period that he first inoculated by way of experiment, a boy, John Phipps, whose name has become historical in consequence of this important event. Pasteur's anthrax inoculations were based upon the same principle as Jenner's vaccination. Pasteur experimented with a definite organism, the anthrax bacillus; while in the case of small-pox the exact nature of the infectious material has not been determined. Thus, eighty-five years elapsed between the first practical application of vaccination by Jenner and that of anthrax

inoculation by Pasteur. Koch and Behring have completed the circle of experiments which received their first impetus by the patient and ingenious labors of Jenner. Without the latter's powers of observation and practical application of his convictions, the most brilliant discoveries of Pasteur, Koch and Behring might never have been made.

The great importance of Jenner's discovery is therefore recognized by the medical profession throughout all civilized countries and the hundredth anniversary of this momentous event has been an occasion for much reflection upon Jenner's life work. On May 14, 1796, Jenner made the first protective inoculation since which time vaccination has completed its triumphal march throughout the entire civilized world.

Jenner had for many years taken pains to determine at what stage of the cow-pox their fluid contents is particularly effective against variola and the satisfactory solution of this problem encouraged the investigator to continue his researches until he finally inoculated the first individual with the virus obtained from a peasant girl whose skin had been scratched by a thorn with a subsequent development of cow-pox. The experiment proved to be a complete success so that when in the stage of deflorescence the boy (John Phipps) was inoculated with variola virus not the slightest trace of small-pox infection was discernible. Jenner postponed the publication of this result until two years afterwards he was enabled to make more extensive experiments with the same positive result. He succeeded in transmitting, from person to person, the virus of cow-pox to the fifth individual, with a complete protection against small-pox in every case. After this result Jenner decided upon the publication of his investigations. The publisher refused, however, to publish his manuscript with the advice that the author should not risk his reputation which he had acquired through previous writings. Jenner, being thoroughly convinced of the value of his discovery, decided to undertake the publication himself, which appeared in London under this title: "An inquiry into the causes and effects of the variola vaccina, a disease discovered in some of the Western counties of England, particularly in Gloucestershire, and known by the name of cow-pox." The publication made a great sensation and was rapidly translated into German, French, Latin, Italian and Dutch. After he had published this work Jenner visited London for the purpose of demonstrating his vaccination; but after trying in vain three months to find somebody who would submit to the process, he returned home. Soon Jenner's results were verified at various hospitals, although in Pearson and Woodville's vaccination institute a death occurred among 500 vaccinations, retarding for a while the rapid progress in the popularization of vaccination. As is always the case under similar circumstances there were many opponents whose reasons for objecting to vaccination had to be refuted by additional writings of the author, but soon Jenner's cause came out universally victorious.

As long as vaccination was practiced principally from person to person and, particularly, before the antiseptic era of medicine, there was a substantial basis of argument for the opponents of vaccination, and had it not been for the enormous ravages of small pox epidemics and the almost absolute protective influence of vaccination this prophylactic measure would never have been generally adopted. But for the introduction of this blessing to the human race it would be difficult to calculate the effects of small-pox upon modern civilization. The increased facilities of travel and other social conditions favoring a more general mingling of people of the same as well as different nationalities, would have increased the destructive effects of small-pox epidemics to an immeasurable degree, so that the present social life might have been an impossibility. And unless Nature had accomplished a general immunization by means of continued epidemics, according to the law of the survival of the fittest, the result would have been incalculable. Before the introduction of vaccination Europe lost from one-tenth to one-twelfth of the population from small-pox; one-half to three-fifths of the mortality among children being due, in some years, to the disease. About the devastation by small-pox in North America Catlin writes: "Thirty millions of white men are now scuffling for the goods and luxuries of life over the bones and ashes of twelve millions of red men, six millions of whom had fallen victims to the small-pox and the remainder to the sword, the bayonet, or whisky." Similar, or even worse, were the experiences among other uncivilized nations, whole races being destroyed by the disease. The damage done by the scourge can not be calculated, however, by the victims who died alone, for those who survived were not infrequently wrecked for life. Some becoming blind, deaf or lame; others became a ready prey to consumption and scrofula, or to parenchymatous degenerations manifesting themselves in dropsical or asthmatic affections. At the present time when with a careful observance of all aseptic and other well known and essential precautions "animal" vaccine lymph is gathered and almost exclusively used, arguments of a transmission of various diseases are no longer tenable. We would suggest, however, that all animals used for the manufacture of vaccine lymph, should not only be examined by well trained veterinary surgeons, but should also be subjected to the crucial test for tuberculosis—the inoculation with tuberculin. As in some instances tuberculosis may escape detection without this test, some exceedingly healthy looking cattle having been found to be tuberculous, this precaution seems absolutely necessary. With a conscientiously gathered vaccine lymph and a strictly aseptically conducted vaccination, all arguments as to the injuriousness of vaccination must fall to the ground. It can not be denied, of course, that by vaccination a disease is introduced into the inoculated individual, but this evil is so infinitesimally insignificant when compared with the accomplished immunization against the most dreaded scourge of former centuries,

that no logical person can, under ordinary circumstances, have the slightest objection to a general adoption of this prophylactic measure. In very delicate persons, principally delicate children, the propriety of vaccination, in the absence of an epidemic, must, of course, be duly considered.

Careless vaccination, or the most reprehensible distribution of vaccine virus among laymen, to which we have editorially called attention in a former issue can not be too vigorously condemned. The possible detrimental results of such carelessness is, however, too evident to require discussion. Vaccination, when practiced with all precautions that science has placed at the physicians disposal, is a much greater blessing than some people realize and its principle the foundation of the most epoch-marking discoveries in general prophylaxis and therapy. When the giants among therapeutic investigators will pass *revue* before the intellectual eyes of future generations the name of Jenner will remain inseparable from the names of Pasteur, Koch and Behring.

The New City Hospital.

The recent tornado will necessitate the building of a new city hospital, the old one, for so many years a disgrace to our city, has been completely demolished. A splendid opportunity is now offered to the Health Department and to the city authorities to demonstrate how competent they are to solve the problem in a comprehensive manner. The authorities are not only confronted with the task of erecting a modern building, but also with the problem of so utilizing the medical and surgical material for purposes of clinical teaching as will perpetuate the reputation which the City Hospital had in the past as one of the centers for medical instruction. More than that—opportunity offers for extending its scope of usefulness. The question of medical education as connected with the City Hospital should be taken into consideration early. The erection of the buildings and their location should be done with this end in view. In a general way we would say a separate building should be erected which should be devoted to the various purposes of clinical instruction. It should contain an amphitheater, various clinical rooms into which small sections of advanced students could be taken under the guidance of teachers for demonstrations. In the same building provision should be made for the establishment of a branch of the City Dispensary, the patients of which could, as occasion presented itself, be utilized for illustration. A modest fee for a hospital ticket would go far toward defraying the expenses of this department of the Hospital. There should be a building, separate from all the rest, in which should be established, as time rolls on, a museum of pathology which should be gathered from the post-mortem room in the same building and from the city's morgue.

The plat of ground upon which the old hospital stood

is sufficiently large to permit of the erection of separate detached buildings two stories in height, around a park-like area. Separate pavillions, one story high, should be erected for the treatment of the acute infectious diseases.

Will our local health authorities and the municipal assembly take the steps to accomplish such an end? The reputation of St. Louis as a medical center would thereby be greatly enhanced, and suffering humanity thrown upon the city's charity would be better served than it has been under former arrangements.

The City Health Department.

The Health Department under the direction of Dr. M. C. Starkloff, the Health Commissioner, did noble work for the sufferers by the tornado. The generalship displayed by the Health Commissioner who, in spite of personal injuries which he received during the storm, supervised operations will recommend him as a man eminently fitted for the place in which he had already proven himself to be possessed of fine executive qualities.

He grasped the situation in its enormity and lost no time in finding a home for the patients of the City Hospital in the old building of the Sisters of the Good Shepherd, and transferring those who had suffered personal injury to St. John's Hospital and the Alexian Brothers' Hospital.

We congratulate the city that its Health Department is in the hands of so energetic and competent a physician.

CORRESPONDENCE

Creosote and Oxide of Zinc in Infantile Diarrhea.

Editor MEDICAL REVIEW.—Some years ago my attention was called to the use of oxide of zinc in summer diarrhea by a note in a medical journal, written by a "Country Doctor." The suggestion made no impression on my mind as to its utility until during the summer of 1890, while Surgeon to the Corralitos Mining Company, in the State of Chihuahua, Mexico. At that time I had occasion to treat a great number of badly fed Mexican children for diarrhea. Having exhausted my supply of subnitrate of bismuth, it occurred to me to use, instead of bismuth, oxide of zinc. Then was the beginning of the period of my disgust with the old treatment of such diarrheas by calomel, sugar of lead, subnitrate of bismuth, chalk mixtures, etc., which I now believe sent many a little patient to the Camp of the Saints—*Campo Santa*.

During that summer and fall, I treated over two hun-

dred cases of diarrhea among the dirty, half-clad, badly fed Mexican mining population, with so small a death rate that I fear to name it, else the readers of the REVIEW might doubt my statement. My standing formula for children is this:

R. Creosote, ... gtt. ij.
Oxide of zinc, ... Div.
Acacia mucilage, ... ʒij.

Mix thoroughly. Dose, one teaspoonful often enough to keep the bowels restrained.

I sometimes increase the creosote to two drops to the ounce of the mixture, when it is well borne and the fermentation is very great, which is indicated by soap-suddy discharges. I frequently add a dram of camphorated tincture of opium, and half a dram of fluid extract of ipecac. Opium should, however, be used very carefully. I am in the habit of giving just before the child takes nourishment from three to five grains of Taka Diastase, or the same amount of Peptenzyme.

The reduced death rate following this treatment in my hands caused me to carefully investigate the clinical history and the pathology of my cases, which has brought me the following conclusion: That a large percentage of infantile bowel troubles owe their causation to the presence of tubercle bacillus in the intestinal tract.

Upon no other theory can I account for the brilliant results of the creosote and oxide of zinc treatment. The dirty, black Mexican children, where the proper dietetic rules were observed grew as fat as pigs long before the diarrhea season was passed. The creosote and oxide of zinc treatment has proven equally as successful in the treatment of diarrhea and dysentery, acute as well as chronic, in adults—two diseases so very fatal throughout the Mexican Republic.

I have achieved brilliant results in cases where I have pushed the creosote to the extent of from four to six drops dissolved in mezcal or sotol every three or four hours until five or six doses were taken, and then continuing it three times a day until the disease was cured. In these cases the oxide of zinc was given in from fifteen to twenty grains with five to ten grains of Dovers powder four or five times in twenty-four hours.

In children, with very irritable stomachs, I frequently inject the creosote and oxide of zinc mixture above the sigmoid flexure, with as much camphorated tincture of opium as the child will tolerate, with very happy results.

Theoretically, creosote and oxide of zinc are proper remedies in all diarrheas accompanied by a wasting condition of the tissues. This condition, so invariably present in summer diarrheas, has led me to conclude that tubercle bacillus is an important factor in the causation. One of the most active processes of tuberculosis is to derange nutrition by organizing destructive ferments in the alimentary canal. There is certainly a strong resemblance between the pathological processes at work in the diarrhea of tuberculosis and those at work in the alimentary canal in summer diarrheas; and if creoso-

and oxide of zinc cures the latter, why not the former?

I will here allude to the beneficial effects of creosote in the vomiting of pregnancy, in cases where the neuroses has set up fermentation in the stomach. In such cases one drop doses given in a little brandy every hour always has given prompt relief. In cases where there are no ferments in the stomach, it has not given such prompt relief, and then only in very small doses.

San Buena Ventura, JESSE E. THOMPSON, M.D.
Chihuahua, Mexico.

TRANSLATIONS.

BY EDGAR THOMPSON, M.D.

Post-Anesthetic Accidents.—M. Angelesco says that of all the mishaps which accompany or follow anesthesia paralysis is the least described (*La Presse Med.*, May 16, 1896). Peripheral paralysis of the brachial plexus is most frequently observed. The fact that the paralysis is limited to the upper extremities led some to the opinion that it was caused by a mechanical compression of the brachial plexus by the arm hanging over the edge of the table or by lying in other constrained positions. It is easy for the clavicle or head of the humerus to compress the nerves in the axillary if the arm is placed in a vicious position, and it is important to maintain the arms in a natural relation.

Three cases have been observed by the author, and in each the paralysis was of several month's duration, but the loss of motion and atrophy was eventually overcome. Only the muscles of the forearm supplied by the median nerve were involved.

The character of the anesthetic seems to make no particular difference. One case was anesthetized with chloroform, the second with a mixture of chloroform and ether, the third with ether.

The first case was an operation on a woman for the removal of a new growth involving the coccyx and sacrum. The body was placed on the right side during the operation, and when the patient revived (after 30 minutes) she had a paralysis of the right forearm. The tricept was not involved. In two months the paralysis has disappeared. Ether was used.

The second case was a salpingotomy. Anesthesia was begun with ether and continued with chloroform for one hour; when patient awoke it was found that she had paralysis of the right forearm. It was impossible to contract the fingers, supination was abolished, and lateral movements of the hand were impossible.

The third case was operation for the removal of both tubes. Patient was 45 minutes under chloroform. Paralysis of the left forearm occurred, with the same general character as the first two cases.

On the surface supplied by the paralyzed nerve sensibility was diminished. The cause of these paralyses is

believed by the author to be partly mechanical and partly physiological. During anesthesia it is, perhaps, easy to injure a nerve by compression, and it is very easy to force the arm in an unnatural position.

The author advises that the surgeon should not neglect to watch the extremities, and put them in an unconstrained position.

MEDICAL & SOCIETIES

Second Pan American Medical Congress.

Special Regulations for the Second Pan-American Medical Congress, which meets in the City of Mexico, on November 16, 17, 18 and 19, 1896.

ENROLLMENT.

ART. 1.—In order to be properly enrolled, each member of the Congress will pay to the Treasurer thereof in the City of Mexico, the sum of five dollars gold.

GENERAL SESSIONS.

ART. 2.—There will be one opening session, one closing and one intermediate session of a purely scientific character.

ART. 3.—The opening session, which will be of a solemn character and presided over by the Supreme authority of the Nation, besides being attended by the members of the Congress, will also be attended by the members of scientific societies, and other distinguished persons who may be invited. The session will be opened with the report of the General Secretary.

This will be followed by a speech of welcome, pronounced by the President of the Congress.

Two members will then speak on scientific subjects, and they will be followed by a speech from the President of the Republic. It is strongly recommended that the scientific speeches should be of short duration.

The intervals between the speeches will be filled up with musical performances.

ART. 4.—At the closing session, the General Secretary will notify the place designated by the Congress for holding the third meeting.

ART. 5.—The Treasurer will present his accounts to the Congress, showing the disbursements made of the funds entrusted to his care.

ART. 6.—A scientific speech will be delivered and a short speech by one Representative of each one of the nations attending the Congress.

ART. 7.—In the intermediate session, four speeches will be delivered on general matters, by persons who are highly distinguished in medical science, and who, having been in due time invited to do so, have accepted the commission; one of these speeches being pronounced by a Mexican physician, who shall be invited to do so by the Committee of Management.

ART. 8.—No discussions will be held in the General Sessions.

SESSIONS OF THE SECTIONS.

ART. 9.—These sessions will be held from 9 to 12 A.M. and from 3 to 5 P.M., in the places that may be designated by the Organizing Committee. They shall be presided over by the President of each section, alternating with the Vice Presidents of each one of the nations that are represented in the respective sections.

ART. 10.—The person who may be appointed by the Committee of Organization, will be the ex officio Secretary of each section, and he will fill his post alternately with the Secretaries of the nations who may be represented in the sections; but should the latter be present, their places will be supplied by the President in office.

ART. 11.—The President will direct the discussion in accordance with the order of the day, and will decide all questions that may arise, and that may not be provided for in these regulations.

ART. 12.—The ex officio Secretary will make out the minutes, and for that purpose, besides his own notes, will collect those of the Secretaries who may have acted in the section. He will also collect from the persons who may have spoken, the written extracts referred to in Art. 10.

ART. 13.—All questions relating to the debates which are not provided for in these Regulations, will be decided in accordance with general parliamentary practice.

ART. 14.—The voting will be by name or by putting the question.

PAPERS, EXTRACTS THEREOF AND DISCUSSIONS IN THE SESSIONS OF THE SECTIONS.

ART. 15.—All papers will be presented in writing.

ART. 16.—Each author will forward to the Secretary of the Organizing Committee in the City of Mexico and before the first day of August of the present year, an extract not exceeding 300 words, of the paper to be presented by him. These extracts will be printed in English, French and Spanish and will be distributed to the members of the Congress, before the session in which they are to be read.

ART. 17.—No paper will be announced which is not accompanied by this extract; but the authors who comply with these conditions, will have a right to have their work published intact in the transactions of the Congress.

ART. 18.—The reading of the papers in the sessions must not last more than 20 minutes; when the papers are so long that they can not be read within that time, the authors will give extracts from them, either in writing or by speech; but they will be published intact in the transactions of the Congress and in the language in which they have been written.

ART. 19.—The extracts referred to in the preceding article will be delivered at the same time as the papers,

to the Secretary of the Section to which they pertain.

ART. 20.—The members of the Congress who may take part in the discussions in any section, will present their speeches in writing at the termination of the sessions, to the respective Secretaries of such sections and they will also be published in the transactions.

ART. 21.—The papers which have been announced for reading in the order of the day in each section, will serve as subjects for discussion. In such discussions, no speaker will be allowed to speak more than once and for five minutes; but the author of the paper under discussions, will be allowed to reply, if he considers it necessary, in one sole speech, which will not go beyond ten minutes.

AUXILIARY COMMITTEES IN THE MEXICAN REPUBLIC.

ART. 22.—These Committees will be appointed by the Committee of Organization and will be composed of one member for each Local Medical Society, or in their absence, of one physician for every centre of population. They will co-operate with the Committee of Organization in promoting the success of the Congress. Said Committees will be appointed during the first months of the present year.

EXECUTIVE COMMITTEE.

ART. 23.—In order to form this Committee, the Organizing Committee will appoint seven members, including the President, Secretary, Treasurer, and Mexican representative in the International Executive Committee, and such members will attend to everything relating to the business of the Congress, in accordance with the regulations that they may adopt for that purpose.

Mexico, January, 1896.

DR. MANUEL CARMONA Y VALLE.

DR. RAFAEL LAVISTA.

DR. EDUARDO LICEAGA.

ABSTRACTS

MEDICINE.

The Treatment of Pneumonia in the Babies' Hospital, New York.—L. Emmett Holt (*Arch. of Ped.*, XIII, No. 4). Among the children under three years of age treated at this hospital, one-fourth of the pneumonia cases are lobar, three-fourths broncho-pneumonia. The cases are kept in a ward by themselves, with plenty of air-space, temperature 70° F., and the children are removed once a day to permit a thorough airing of the ward.

To secure proper nutrition, and to avoid digestive disturbance, food is given considerably diluted, and *

regular hours; also abundant water between times, with stimulants. Peptonized milk is used for the youngest infants. Care is taken to avoid distention of the colon by gas, which frequently occasions cyanosis or convulsions in infants. Daily irrigation of the colon is practiced in such cases.

Avoid drugs, and especially expectorants. Antipyretics are to be used only when there is a high temperature, with extreme nervous symptoms. Cold sponging, ice to the head, or the cold pack or bath are freely used, and occasionally phenacetin. Counter irritation by a mustard and flour paste of the strength of 1 to 6, applied for a few minutes three times a day, is much more useful than poultices. Inhalations of steam from a croup-kettle are employed systematically in all cases every three or four hours under a tent. The steam is charged with vaporized creosote, turpentine, or benzoin. The inhalation is continued from ten to twenty minutes, and controls the cough. For stimulation, from $\frac{1}{4}$ to 3 oz. of whisky are administered every twenty-four hours, well diluted; strychnine in frequent small doses; sometimes nitro glycerin, or digitalis and ammonia.

An oil silk jacket should be worn. Prolonged cases do better when sent away to the country than when retained in the hospital wards.—*Amer. Med. Surg. Bulletin.*

Prevention of Tuberculosis by Feeding.

—Ephraim Cutter, M.D. (*Dietetic and Hygienic Gazette*), Tuberculosis includes (1) pulmonary consumption, (2) intestinal tuberculosis, (3) tuberculosis of the joints, and (4) visceral tuberculosis. The author defines it as "partial paralysis and interstitial death." Of 1026 healthy swine, fed on sour whisky distillery slop, all were sickened and 250 died. Autopsies on 104 showed tubercle bacilli. In pens adjoining these 1026 swine, at the same time, there were 600 healthy swine fed on good, sweet maize. None contracted tuberculosis. Hence the proposition that if healthy people are fed on proper food they will not contract tuberculosis in their vitiated air-food. Tuberculosis prevails in those whose food ferments in the intestine and forms acetic acid. When the mycoderma aceti is confined to the alimentary canal intestinal consumption occurs. The intestinal epithelia prevents the vinegar yeast from entering the blood. But when the epithelia are paralyzed by CO₂ gas or by alcohol found in the canal, then the said epithelia lose their power of resistance and allow the mycoderma aceti to penetrate and enter the blood. They can be detected here by the microscope a year before lung necrosis occurs sufficiently to be recognized by auscultation and percussion:

The pulmonary apices are favorite sites for tuberculosis, because (1) they are most accessible to cold; (2) the lung capillaries contract on the application of cold; (3) in contracting they catch and detain collections of mycoderma aceti; (4) these form emboli, which obstruct the circulation; (5) the apices are not greatly expanded, being in a comparatively inelastic part of the thorax.

Tuberculosis can be prevented by special feeding, avoiding causal foods. The 600 swine avoided the sour food of the 1026 swine and did not get consumption. Men are not hogs, but they often make swill-tubs and vinegar yeast pots of their intestinal canals. Men can avoid foods that ferment with the *saccharomyces cerevisiae* and *mycoderma aceti*. Such are vinegars, starches, and sugars in excess, and composite foods sweetened with sugar, glucose, maltose, leuculose, and fructose; in fact, any food that ferments with alcoholic and vinegar fermentation. Patients should be forbidden cornmeal preparations, beans, soups, sweets, pies, cakes, pickles, sauce, preserves, fruits, vegetables, greens, pancakes, fritters, crullers, griddle-cakes, salads, and mush. As relishes, celery, lemons, horse-radish, butter, pepper, and salt may be used. Hot water, clear tea, coffee, and cocoa serve as drinks. As a general rule, to prevent tuberculosis in the healthy, the food should be, by bulk, two thirds animal to one-third vegetable. Liquids at will, save sugars in excess.

The air is filled with tubercle bacilli, or pavement epithelium invaded with bacilli or with the zooglae of the animalized mycoderma aceti. We are more or less surrounded by aerial tuberculous bacilli. But sunlight and healthy secretions destroy these bacilli. Domestic contagiousness of tuberculosis is explained by the fact that families generally live on the same foods. Some, however, are more resistant than the others. Expand the lungs and apices with full breaths of air freshened by sunlight and purified by the winds. Eat the proper solids, semi-solids, and liquids.—*Amer. Med. Surg. Bulletin.*

Methylene Blue in Malaria. Rottger, of Kiel (*Deut. Med. Woch.*) has within a short time treated 7 cases with methylene blue in doses 0.1 g. in capsules, given six to eight times in the day. The rapid cessation of the attack was striking; in one case this occurred at once, but in the other cases only after a modified attack. Microscopic examination showed that the plasmodia disappeared from the blood later than the febrile attacks. A note-worthy change in the plasmodia was not observed. The duration of the treatment extended over 8 days as a minimum, and 33 days as a maximum. It was determined by the disappearance of the plasmodia and of the splenic enlargement. The latter occurred in most cases. There was a relapse in only one case. The author saw no unpleasant effect upon the gastro-intestinal tract. Occasionally there was slight nausea at the beginning, but this was never marked. No irritation symptoms referable to the genito-urinary system were noted; yet methylene blue administered during long periods appears to affect the patient's general health. The changes in the urine and feces are worthy of attention. The former is always green to dark blue according to the amount of the drug taken; the feces are green, and only colored over the surface. A short time after evacuation they present green points which became confluent later. The author

concludes that methylene blue is an effective remedy in malaria, and perhaps the next most effective to quinine. —*Brit. Med. Jour.*

Congenital Syphilis of the Liver in Infants.—K. Hochsinger (*Wien. Med. Woch.*) has observed 172 cases of inherited syphilis at the Vienna Institution for Sick Children, between the years 1883 to 1894. Of these children 148 were in their first year, and 46 of the 148 showed a decided enlargement of the liver when examined at the bedside. Of these 46 children 30 were cured by antisyphilitic treatment, 7 were lost sight of, and 9 died, a *post mortem* examination being made in 5 cases. It is probable that the 7 cases lost sight of were fatal cases, so that 16 out of the 46 really died. Thirty four of the 46 cases were not more than six months old. In 1 of the necropsies tuberculous caseation was found in the liver; this is the first published case of a child having both congenital syphilis and congenital tubercle, and it was described at the Dermatological Congress in 1894 at Breslau. Gubler was probably wrong when he supposed the great mortality in infants with congenital syphilis was due to the hepatic affection, but he was probably right in supposing that hardly any children are born dead owing to syphilis, unless a morbid change in the liver is recognizable. Clinically in most of Hochsinger's cases the spleen felt enlarged as well as the liver. The enlargement of the liver varied in degree in different cases; the organ felt smooth and hard. In none of the cases was ashytes or jaundice observed. In all the cases, excepting a few, a syphilitic rash was present. In several cases there was syphilitic bone disease. Nasal trouble was present in every case. In most cases the size of the liver soon diminished under mercurial treatment; only in the worst cases was there no reduction in size after as much as four weeks' treatment. Probably when no increase in the size of the liver can be obtained, there is some nonsyphilitic cause present as well as syphilis, usually fatty infiltration. As a rule, the cutaneous and osseous manifestations of congenital syphilis disappear before the enlargement of the liver doses; but the splenic enlargement is more resistant to antisyphilitic treatment than the hepatic enlargement. Hochsinger believes that in suckling infants with enlargement of the liver, in whom the manifestations of congenital syphilis were undeniable, jaundice has always been absent; further, that when jaundice was present in infants with enlargement of the liver, undoubted manifestations of syphilis have never been observed. The ages of the four children in whom a necropsy was made (the partly tuberculous case not included) were respectively 11 weeks, 4 months, 7 weeks, 5 months. As in cases of this nature previously described, a more or less diffuse affection of the hepatic parenchyma was observed, consisting in the presence of inflammatory cells amongst the individual hepatic cells of the acini. Inflammatory collections of cells were also seen about the small interacinous branches of the hepatic artery

and portal vein, and especial attention is directed to the fact that in the arterial branches the intima was thickened. As Wilks in 1863 already noticed, it is the interstitial infiltration with inflammatory cells, and not any circumscribed gummatous process, which is the characteristic of infantile hepatic syphilis. Miliary gummata are nothing else than interacinous collections of the small inflammatory cells. True hepatic gummata are extremely rare in infants, and when caseous in the centre they should, as Baumgarten thinks, awaken suspicion that the tubercle bacillus is present. —*Brit. Med. Jour.*

Tincture of Cantharides and Albuminuria.—In an article on this subject, published in the *Gazette Hebdomadaire de Medicine et de Chirurgie*, M. Du Cazal remarks that at a recent meeting of the Academie de Medicine M. Lancereaux stated, in a communication on albuminuria from a therapeutic point of view, that when uremia has ceased we must seek to modify the altered tissues, and that the medication necessarily varies according to whether it is the connective and vascular tissues, or the epithelial tissues, that are involved—in the first case potassium iodide was to be preferred, in the second case cantharides had given him the best results. Two cases of epithelial nephritis with albuminuria and considerable anasarca had been cured in less than three months under the influence of cantharides; while in the case of a patient who had considerable anasarca, and passed only 15½ ounces of urine in twenty-four hours, the renal secretion became abundant within two days after the ingestion of twelve drops of tincture of cantharides, and in eight days the anasarca had disappeared.

The question under discussion, says the author, is certainly one of great importance. Acute catarrhal nephritis often results in death from the uremic and congestive symptoms it causes, in the presence of which the physician is too often powerless.

Since M. Lancereaux's communication, Du Cazal has had occasion to apply the treatment in a number of cases of nephritis, and in four cases out of five has obtained complete recovery in a surprisingly brief period, the fifth case showing considerable amelioration only. Three of these cases were acute nephritis, one consecutive to pneumonia that had been treated by cold water; the others were of scarlatinous origin.

It was his first trial of the treatment, and the rapidity and persistency of the recovery were a great surprise to him. In the third case, one of the acute catarrhal nephritis of influenzal origin, the drug, caused rapid diminution and then complete disappearance of albumin, although the pathological condition had a manifest tendency to become chronic. Notwithstanding the failure to obtain recovery in the fifth case, says M. Du Cazal, the results ascertained in the others absolutely confirm the account of those communicated by M. Lancereaux to the Academie.

M. Laboullene and M. Olivier have recalled the fact

that the treatment by tincture of cantharides was recommended by Grisolle and by Raver, but had been forgotten until M. Lancereaux drew the attention of the profession to it, thereby, in the author's opinion, rendering great service to physicians, and, above all, to patients.—*Therapeutic Gazette*.

Chronic Gastritis of Long Standing, with Periodic Attacks of Migraine.—Report of a Case.—The herewith reported case is one of double interest, inasmuch as the patient has been under my care for a number of years, and previous to the commencement of the present treatment, I have been unsuccessful in affording much relief or preventing the recurrence of the frequent and periodic attacks of migraine, to which she had been more or less subject to since early womanhood. The cause of which I could not account for more than "a habit long continued," aggravated by gastric catarrh.

The history of the case is briefly as follows: "Mrs. A., aged 55, since early womanhood has been subject to periodic attacks of migraine at intervals of two, three or four weeks, but seldom free from them for longer intervals.

An attack comes on by general malaise of usually a day's duration, repugnance of food or drink, marked drowsiness, much depression with request for rest and quiet, followed by complete physical prostration, dull frontal headache, which the least noise or disturbance makes the more intense, invariably accompanied by violent and frequent attacks of vomiting and retching, inability to retain any food or nourishment of any kind, retention of bowels, often cold sweats, pulse somewhat slow and weak and small in volume. This condition lasting usually two days, followed by gradual cessation of symptoms.

During the whole period of usually four or five days' duration, she is unable to take nourishment of any kind, remains constantly in bed, and desires only complete rest and quiet. The previous treatment has been so varied and on so many different plans, that I refrain from mentioning them.

Two years ago I was able to prevent an attack for over two months by the use of strychnine in $\frac{1}{100}$ grain doses t. i. d. with careful diet and artificial digestive.

In May, 1895, I put her on Charles Marchand's "glycozone" in teaspoonful doses well diluted t. i. d., using this as all other previous remedies experimentally; she commenced to improve much in general health, an unusually good appetite, without the previous distressing symptoms following, a more regular movement of the bowels, freedom from headache, and in every way a decided improvement; this improvement and enjoyment of good health lasted during continuation of above treatment for over three months. Unknown to me she stopped taking the glycozone, thinking herself perfectly well. In a few weeks had a return attack, milder and devoid of gastric distress. A similar attack two months later, both of which occurred some weeks after stopping

the above described treatment, and I might say caused by imprudence in diet.

The conclusion came to, in this case is that the headache is sympathetic, that the stomach becomes acutely inflamed by its inability to naturally and properly perform its functions, and responds to the call of Nature to unload itself, and thus secure for a time rest, that the use of glycozone has corrected the existing gastritis and by so doing has removed the primary cause of these many years of suffering.—Geo. A. CURRIDEN, M.D., of Chambersburg, Pa., in *Medical Summary*, March, 1896.

The Frequent Dependence of Insomnia, Mental Depression, and Other Neurasthenic Symptoms Upon Diseases of the Gastro-Intestinal Tract.—In a paper with this title, read before the Section in Practice of Medicine of the American Medical Association at the recent meeting, Dr. Boardman Reed, of Atlantic City, pointed out that the symptoms named were admitted to result from the graver forms of disease of the alimentary canal, such as cancer, ulcer, gastric catarrh, dilatation, etc., in consequence of the lowered nutrition which these affections induced, from starvation of the nerve centers consequent on impoverishment of the blood, or from poisoning primarily of the blood and secondarily of all the tissues by the products of fermentation, putrefaction, and suboxidation (*N. Y. Med. Jour.*). He showed that, while cancer and ulcer of the stomach were generally recognized at a comparatively early stage, on account of the pain and vomiting which characterized them, gastric catarrh, gastric atony, and dilatation of the stomach were oftener allowed to progress to an advanced and comparatively hopeless stage before they were properly diagnosed and the patients placed under appropriate treatment. That form of gastric derangement in which an excess of hydrochloric acid is secreted, he referred to somewhat at length, because it was exceedingly common, accompanied nearly always by severe neurasthenic symptoms, including especially insomnia, etc., and yet, being only demonstrable by the tube after a test meal, was very generally overlooked. He dwelt especially upon the almost constant association of superacidity with constipation, and suggested as an explanation of the connection, that the superacid contents of the stomach, upon passing into the bowel, inhibited or greatly diminished the activity of the intestinal ferments, which required an alkaline or at least a neutral medium, and that, besides this serious interference with intestinal digestion, the excessive acidity might set up irregular or spastic contractions of portions of the gut. He had felt these contracted portions in such cases and considered the constipation thus produced an important link in the chain of causes which resulted in self intoxication.

Transmission of Tubercle.—Jaeckh (*Virch. Archiv.*) investigated the question whether the sexual glands or their secretions contain virulent tubercle ba-

cilli. He used the testicles and the contents of the seminal vesicles, as well as the ovaries of tuberculous patients who had died either of chronic pulmonary tuberculosis or of general miliary tuberculosis. Portions of the sexual organs or of the semen were introduced into the abdomen of guinea pigs and rabbits. Of five cases in which portions of testicle or of semen were injected, positive results were obtained thrice with the semen and once with the testicular substance. All the rabbits remained healthy. Of three injections with ovary one gave a positive result. Examination of the young of tuberculous female guinea-pigs gave only one positive result. It appears, therefore, that the semen may contain virulent tubercle bacilli, and that transmission of tubercle from mother to child is not the general rule.—*Brit. Med. Jour.*

Treatment for Electric Shock.—Dr. D'Arsonville, of Paris, who has made a special study of methods of treating persons injured by electric shocks, proposes the following formula: The person so disabled should be treated like one drowned; in other words, he should be laid upon the back and artificial respiration performed in the way that is ordinarily prescribed. Some further practical advice, however, is given to those who are called at once to the scene of the accident, and at the time when the person is perhaps still in contact with the wires. Of course, the first thing to be done is to stop the current or break the contact. In doing the latter one should not touch the victim on the face or hands, or any naked part of the body. It is better to lift him by the coat-tails or to throw a blanket over him and pull him by this. Nothing that is wet should be thrown upon him, and if his clothes are wet the hands should not be put in contact with them. A piece of dry wood can be placed under the body, and he can then be lifted. The further treatment of the case is the familiar one applied in attempting to restore the drowned. The arms are worked and the tongue is kept drawn out; the body may sometimes be rubbed thoroughly with a cloth or brush in order to increase the circulation of the blood. Oxygen and perhaps a stimulant may be employed.

OBSTETRICS AND GYNECOLOGY.

The Treatment of Inevitable Abortion.—According to Gould, an "inevitable abortion is when the embryo or fetus is dead, or when there is an extensive detachment or rupture of the ovum."

The symptoms of this condition are dilatation of the cervix, uterine contractions, the loss of the angle between the lower and upper uterine segments, and uterine hemorrhage.

Of the two classes of abortion, viz, criminal and accidental the former, in this *fin de siècle* age, is the one most frequently met with. Where the evidence of an

attempt to terminate gestation is positive, even though hemorrhage may be slight and the degree of dilatation of the cervix insignificant, threatened criminal abortion should be considered as inevitable. The fame of the catheter and its use in this connection, is world wide, yet how many women fail to appreciate the pernicious results which may follow its use! How is it possible to determine whether or not septic matter has been introduced into the cavity of the uterus with the instrument until certain symptoms are manifest? Is it not safer practice, therefore, to consider such cases as inevitable rather than to temporize?

There is but one indication for treatment, and that is to empty the uterine cavity. This is best accomplished after rapid dilatation of the cervical canal with the Goodell dilator, by means of the index finger. After removing as much of the products of conception as possible, the cavity should be thoroughly curetted with the sharp curette. Some advise the use of the vaginal tampon, but tamponage is procrastination and should be condemned; curettage, though radical, is the rational treatment.

This procedure is particularly applicable in cases of the criminal variety, for the abortion will usually be incomplete; it is equally valuable in the accidental cases, for we can not be positive that the abortion will be complete, as small pieces of the decua vera sometimes remain attached to the uterine wall. These may be discharged with the lochial secretion, or, on the other hand, may remain and be the starting point for a septic process. Taking it for granted then that abortion is seldom complete, is it not best to empty the uterus at once, when it seems inevitable, rather than to temporize, waiting as did Micawber, for something to turn up?

The curette answers every indication. After its thorough use the uterus contracts, pain ceases, and the hemorrhage is stopped, and the patient is placed in an ideal condition for convalescence.

The danger arising from this procedure is remote. The operation should be performed, however, under the strictest observance of surgical asepsis, for upon the thoroughness of your technique depends your success. The anesthetic may add an element of danger, consequently great care should be exercised in administering it to patients suffering from acute anemia.

The question of the employment of drainage after curettage is a mooted one, some claiming that by the use of gauze we prevent, rather than favor drainage. This may be true if the uterus is packed tightly, but if a narrow strip of sterilized iodoform gauze is carried to the fundus, drainage is not only facilitated, but by its stimulating action the uterus is kept in a state of tonic contraction. Its use also prevents the possibility of the agglutination of the two raw surfaces of the uterine canal, a condition which has been known to occur.—Dr. Carey Kennedy Fleming, in *Denver Medical Times*.

Perfect Placenta Previa Centralis; Mother and Child Saved.—Duloroy (*Actualité Médicale*), publishes one of the rare instances where the placenta was completely inserted on the inferior segment of the uterus, so that the os was closed and the edge of the placenta could not be reached. Hemorrhage, as might be expected, was most alarming. The patient was aged 30, and in her fourth pregnancy. The period ceased after August 10, 1894. Hemorrhage set in on April 25, and continued. On May 17, Duloroy was called in. The perineum was found torn; the laceration had taken place at the previous labor. A bleeding elastic mass filled the upper part of the vagina. No part of the fetus could be felt. On abdominal palpation the head was found presenting; but not engaged in the pelvis. After plugging and various palliative measures, labor set in on May 24, at 11 p. m. By 2 a. m. the os was wide enough to allow of version. A jet of blood, as though from a big tap, issued from the vagina just before the hand was introduced. Turning was successfully performed, and the uterus contracted vigorously, cramping Duloroy's hand, yet effectually checking hemorrhage. The lacerated perineum allowed the shoulders and head to be delivered with ease. The infant remained in a state of suspended animation for an hour. After its expulsion the uterine hemorrhage ceased entirely. The mother was well in three weeks, when the child was in perfect health. The most scrupulous anti-septic precautions were used at and after the labor. Pinard notes that perfect placenta previa centralis, where the centre of the placenta actually occupies the central point of the os, is extremely uncommon. He firmly believes that insertion on the lower segment of the uterus may be explained by the concussion of railway travelling during the first weeks after conception. Duloroy's patient was a laundress, and he thinks that the movements of the body in the exercise of her vocation may have brought about the vicious insertion of the placenta. He feels sure that it was lucky that the perineum was torn in this case, as it allowed of rapid extraction of the fetus when the bleeding was simply appalling, even to an expert.—*Brit. Med. Jour.*

NOTES AND ITEMS

Dr. John S. Billings has received the honorary degree of doctor of medicine from the University of Budapest on the occasion of its millennial celebration.

The Republican National Convention, St. Louis, Mo., June 16, 1896.—For this occasion the WABASH RAILROAD has reduced the rate from all stations to St. Louis to one fare for the round trip. For particulars as to dates of sale, limits, etc., call on or address nearest WABASH ticket agent, or C. S. CRANE, Gen'l Pass. and Tkt. Agent, St. Louis, Mo.

The London Death Rate.—The number of deaths in London last year was 85,138, equal to an annual rate of 19.4 per 1,000, the population being about 4,392,000.

Dr. H. W. Loeb is active in his efforts to encourage the attendance to the meeting of the Mississippi Valley Medical Association of which he is Secretary. The meeting will be held in St. Paul on October 20, 21, 22 and 23, 1896.

Diphtheria Epidemic.—Mayor Finefield, of Odell, Ill., has issued a proclamation forbidding all public gatherings, keeping children off the streets, closing down the public schools and the churches, on account of the prevalence of diphtheria in an epidemic form. The scourge is in several families and a number of deaths have occurred.

Dr. Edgar Thompson of the REVIEW editorial staff and of the corps of dispensary physicians has been granted a two week's leave of absence to recuperate from the effects of the arduous duties which he and his colleagues of the dispensary were called upon to perform for several days and nights following the great tornado. The other physicians of that institution will be granted a like vacation.

Cold in Pneumonia.—Dr. Thomas J. Mays, 1839 Spruce Street, Philadelphia, requests the publication of the following: "My two collective reports already published on ice-cold applications in acute pneumonia give a record of one hundred and ninety-five cases so treated, with seven deaths, or a mortality rate of 3.58 per cent. Being desirous of making as full a report as possible on this subject, I take the liberty of asking those who have tested this measure to kindly give me the result of their experience. Full credit will be given to each correspondent in the report which I hope to publish. Blanks for the report of cases will be furnished by me on application."

Successful Slander Suit Against a Brooklyn Physician.—The trial of the Socersol-Bataban slander suit, in the Queens County Supreme Court before Justice Wm D. Dicker ended with a verdict against Dr. Bataban.

Mrs. Ida C. Socersol, a widow of Evergreens, New York, brought suit against Dr. Siegbert Bataban, of Brooklyn, for \$10,000 damages for "degrading the memory of her deceased daughter," Clara Olivia Nelson, a handsome girl of 19 years, who died November 28, last.

Miss Nelson was attended by Dr. Bataban, who, it was alleged by the complainant, told his wife and others outside the family that the girl died of the effects of a criminal operation.

Five thousand dollars was the amount of the verdict.

Cholera Vibrio in Hen's Eggs.—According to an influential Russian daily paper, a Russian physician, Dr. Golowkow, has announced that he has conclusively demonstrated that the cholera vibrio can penetrate the shells of hens' eggs and enter the interior of the eggs.

Prof. Germain See, of Paris, died in that city on May 12. He was born seventy-eight years ago, and was graduated in medicine from the University of Paris in 1846. He succeeded Trousseau in the chair of therapeutics of the Faculte de Medecine. He was elected a member of the Academy of Medicine of Paris in 1869, and was appointed a commander of the Legion of Honor in 1880.

What the Nations Eat.—A statistician compiled the following figures, showing the cost of nourishment for the various nations: The average Englishman consumes \$250 worth of food per year; Germans and Austrians, \$216 worth; Frenchmen, \$212, Italians, \$110, and the Russians only \$96 worth of eatables per year. In the consumption of meat the English speaking nations are also in the lead, with 128 pounds of meat a year per capita of the population; the Frenchman using 95 pounds; Austrians, 79; Germans, 72; Italians, 52; Russians, 50. The consumption of bread is reversed, being compared to that of meat. The English use 410 pounds a year; the Frenchmen 595; the Austrians, 605; Germans, 620; Spanish, 640; Italians, 660; the Russians, 725.—*The Sanitarian.*

Julius Cæsar as a Journalist.—At one of the meetings of the Congress of Journalists, held recently in Rome, the syndic of Rome, Prince Ruspoli, extending in the name of the city he represents a warm welcome to the members of this Congress, summed up in brief the history of journalism. He recalled to the minds of those present, who, of course, were aware of the fact, but had forgotten it, that Julius Cæsar when he was Consul, was the first to ordain the "Acta Senatus," which were a sort of summary of the debates in that august assembly of Rome—the Senate. He was anxious and specially desirous that the activity of the Senate should be subject to the control of the people. It was quite original, said Prince Ruspoli—as is original everything of the kind which happens—that a tyrant, while he was strangling the republic, should have created journalism! This was indeed one of the ironies of fate.

And this journalism immediately took the form of the Acta urbis, Acta populi Romani, which the Greek freedmen—genuine reporters—who derived large profit from what they did, made every effort to spread abroad by thousands of copies. These Acta, or facts and doings of the city, and of the Roman people, were distributed throughout the provinces of the whole empire, and these provinces then embraced the whole of the known world.

Chauncey Depew on the Japanese.—"Thirty years ago," says Chauncey Depew, "I was appointed United States Minister to Japan. That country had just been opened in the commerce of the world. Its Government was a pure feudalism and of the type of the period of Louis XI. The feudal lords had their armies and their castles and the tillers of the soil were little better than slaves. To day Japan is governed by a constitutional monarchy and a Congress of the representatives of the people. It has an enlightened press, railroads, trolley cars and electric lights. Then its army fought with spears and bows and arrows and its soldiers were clad in armor. To day it has the most efficient navies and best trained and most effective armies in the world. It has utilized every advantage in modern warfare, and in its attack upon China demonstrated that upon land and sea the army and navy of Japan are equal to those of the most advanced of the warlike nations of Europe. Japan is a superb illustration of this age of electricity. It took 600 years for Europe to progress from feudalism to constitutional liberties and parliamentary government, and from armor and lance to the torpedo and the machine gun. Japan has accomplished the same progress in a little over a quarter of a century."

The Young People's Society of Christian Endeavor will hold their Fifteenth International Convention in the City of Washington, D. C., July 8 to 13, 1896.

Delegates and others attending from the West and Southwest will find the Baltimore & Ohio Southwestern Railway, in connection with the Baltimore & Ohio Railroad, the shortest and quickest route to Washington, as well as the most desirable. The passenger equipment of this line is second to none, affording every possible convenience for comfort; two splended through trains daily, designated as the "New York Express" and "Royal Blue Flyer," run direct to Washington. Arrangements have been perfected for cheap side trips from Washington to the many historic places in the near vicinity, namely: Mount Vernon, Harper's Ferry, the battlefields of Gettysburg, Norfolk, Hampton Roads, Fortress Monroe, and other points made prominent through their connection with the stirring events in our Nation's history.

W. P. Townsend, Traveling Passenger Agent, with headquarters at 105 N. Broadway, St. Louis, Mo., and G. B. Warfel, Assistant General Passenger Agent, Rialto Building, St. Louis, Mo., will gladly communicate with or call upon you, with full information covering rates, limits, time of trains, etc.

The Old World's Old Folks.—A German statistician has studied the census returns of Europe to learn a few things about the centenarians of the Old World. He has found, for instance, that high civilization does not favor the greatest length of life. The German empire, with 55,000,000 population, has but 78

subjects who are more than 100 years old. France, with fewer than 40,000,000, has 213 persons who have passed their hundredth birthdays. England has 146, Ireland, 578; Scotland, 46; Denmark, 2; Belgium, 5; Sweden, 10; and Norway, with 2,000,000 inhabitants, 23. Switzerland does not boast a single centenarian, but Spain, with about 18,000,000 population, has 401.

The most amazing figures found by the German statistician came from that troublesome and turbulent region known as the Balkan Peninsula. Serbia has 575 persons who are more than 100 years old; Roumania, 1,084; and Bulgaria, 3,883. In other words, Bulgaria has a centenarian to every thousand inhabitants, and thus holds the international record for old inhabitants. In 1892 alone there died in Bulgaria 350 persons of more than 100. In the Balkan Peninsula, moreover, a person is not regarded on the verge of the grave the moment he becomes a centenarian. For instance, in Serbia, there were in 1890 some 290 persons between 106 and 115 years, 123 between 115 and 125, and 18 between 125 and 135. Three were between 135 and 140.

Who is the oldest person in the world? The German statistician does not credit the recent story about a Russian 160 years old. Russia has no census, he says, and except in cases of special official investigation the figures of ages in Russia must be mistrusted. The oldest man in the world is then, in his opinion, Bruno Cotrim, a negro born in Africa and now a resident in Rio Janeiro. Cotrim is 150 years old. Next to him probably comes a retired Moscow cabman, named Kustrim, who is in his 140th year. The statistician says the oldest woman in the world is 130 years old, but neglects to give her name or address, possibly out of courtesy, or perhaps in view of the extraordinary figures which came to his hand from the Balkan he thought a subject only 130 years old was hardly worthy of particular mention.

Tetanus Antitoxin.—The following circular, dated May 19, has been issued by the New York Board of Health:

"The New York City Health Department is prepared to furnish antitoxic serum for the treatment of tetanus. Each vial contains twenty cubic centimeters of serum, having an immunizing power of one to three million—i. e., one cubic centimeter of serum protects three million grammes of guinea-pigs in weight from a fatal dose of tetanus toxin. The average initial dose of the serum varies with the age of the patient, the gravity of the case, and the time when treatment is begun.

"The remedy is administered by deep hypodermic injections, a large syringe (such as has been employed for diphtheria antitoxin) being preferably employed for the purpose, although an ordinary hypodermic syringe carefully cleansed may be used, the barrel of the syringe being repeatedly filled. Some point on the anterior surface of the body should be chosen for the injection, where there is an abundance of subcutaneous cellular tissue, such as the anterior surface of the abdomen or

thorax, or the outer surface of the thigh. Before the remedy is administered the skin should be carefully washed with alcohol or some disinfecting solution, and the syringe carefully sterilized and then washed with sterilized water. The solution is rapidly absorbed, and it is better not to employ massage over the point of injection.

"It is of vital importance in tetanus that the antitoxin be administered at the earliest possible moment, as the dose required to neutralize the tetanus toxin absorbed increases with great rapidity with each hour's delay.

"When the treatment is begun at the first appearance of tetanic symptoms, and they do not point to a very severe infection, and especially when the incubation period has been long—e. g., two weeks—one vial, or twenty cubic centimeters, may suffice for the first injection, and, according to the results, one half the quantity should be repeated at intervals of from six to twelve hours during the four following days.

"If the infection is intense, as shown by a short incubation period—e. g., five to eight days—or by the rapid development of the tetanic symptoms, and by the predominance and intensity of bulbar phenomena, or, if the treatment is begun several days after the appearance of the tetanic symptoms, even if at the time of injection they are not severe, the contents of one vial should be at once injected, and the dose repeated at short intervals, according to the effect produced on the tetanic symptoms.

"The doses required where the wound has been previously untreated, even if the symptoms are slight, are usually large. The dose for children under twelve should be one half or less than that for an adult. The use of tetanus antitoxin does not preclude the employment of other remedies, such as chloral, the bromides, physostigmine, or morphine. Some one or more of these remedies should be employed in full doses. It is also thought to be advantageous to give large amounts of water to the patient for its diuretic effect, as the tetanus toxin is eliminated by the kidneys.

"Where tetanus follows some wound of the surface, this should be treated freely with some preparation of iodine in solution to destroy the toxins in it. The ordinary antiseptic solutions, such as carbolic acid and bichloride of mercury, are of little value for this purpose.

"The exact value of tetanus antitoxin in the treatment of this disease, and the best method of administration, have not been fully determined, and the Health Department of the City of New York specially requests that all persons using this preparation of antitoxic serum will forward a full report to the department of the case and the results of treatment.

"All public institutions of New York City, on application, will be furnished with tetanus antitoxin free of charge.

"Address, The Bacteriological Laboratories, Health Department, Criminal Court Building, Centre, Elm, White and Franklin Streets."

MEDICAL REVIEW.

A WEEKLY JOURNAL OF MEDICINE AND SURGERY.

VOL. XXXIII.

ST. LOUIS, JUNE 20, 1896.

NO. 25.

ORIGINAL ARTICLES

Micro-Organisms and Disease.

BY J. E. LAMB, M.D., WAHOO, NEB.

Read before the Nebraska State Medical Society, Lincoln, May, 1896.

PLACE OF THE ORGANISMS AMONG PLANTS.

MR. PRESIDENT, LADIES AND GENTLEMEN:—Microbes or bacteria, as they are variously called, belong to the lowest order of the vegetable kingdom. Of the two grand divisions into which bacterial life is placed—*phenogamous* and *cryptogamous*—bacteria belong to the latter. So very like both algæ and protozoa, they are to some biologists a lucid demonstration of the absence of any clear cut limits between the vegetable and the animal kingdoms. There can be no such doubt when a tree is compared with a quadruped. But these are more highly developed forms, the one in the vegetable, the other in the animal kingdom.

The scrupulous care given to the study of these microscopic plants now permits their classification quite as acceptable to naturalists as is that given to the larger plants.

Biologists who at first regarded these micro-organisms as animals named them microzoaria, from Greek words, signifying "small animals." Those who regarded them as plants named them microphyta, meaning "small plants." As a compromise between these respective advocates, the French Academy of the Medical Sciences, in 1878, proposed the word microbes, meaning "small living things." While this word decides nothing as to the animal or the vegetable nature of the organisms it is acceptable to the best neologists on its etymological basis.

Bacteria, meaning "little staff," is a name given to a group of cryptogams closely following the algæ. This order of plants was first designated by the word schizomycetes, meaning "fungus" and "fission" because the organisms were thought to live without chlorophyll and reproduced by fission. The idea of fission was incorporated to distinguish them from moulds and yeasts.

But since several species of the order have been found to possess chlorophyll and reproduce in other ways than by fission, the word schizomycetes is no longer used to designate them, though the word bacteria leaves much to be desired. As practically used in bacteriology, microbes and bacteria are synonymous terms.

Neither phenogamic nor cryptogamic plants can live without nutrition from carbonaceous material. The more highly organized plants, such as trees, are capable of digesting and assimilating some of the inorganic carbon compounds, like carbonic acid gas in the atmosphere, by means of the chlorophyll which is contained in their leaves and which alone gives them their green color. But the less highly organized plants, such as fungi, are unable to utilize inorganic carbon compounds as food, because they are not supplied with the chlorophyll of the larger plants. They must, therefore, feed upon the more easily decomposed organic compounds of carbon, such as sugar and albumen; that is, they must live on the tissues of other plants and animals.

Therefore, *fungi* may be defined as plants without chlorophyll, consequently can not utilize inorganic compounds as food, but must grow only in a soil containing organic matter which may be the dead or the living, tissues of animals or plants.

Pathogenous or *parasitic* fungi, such as the tubercle bacillus, develop and multiply only within living organisms. *Facultative* fungi depend partially, *obligate* depend entirely, upon soil found within living organisms, for their development.

Non-pathogenous or *saprophytic* fungi depend entirely upon dead tissues for nutrition.

Among the fungi, are three numerous classes of microscopic plants of great interest alike to the physician and surgeon.

1. The *moulds*, called flowering fungi, because they reproduce by rude flowers. Most of these plants are saprophytes yet a few species are parasites and cause that class of dermatoid diseases called tinea, as favosa, circinata, tonsurans, syccosis, and versicular. The plants are found in abundance in spots of ringworm. By dissolving this substance in ammonia, the fungus is detached, and may be observed under the glass, if previously stained by an aqueous solution of iodine.

2. The *yeasts* or *ferments*, called budding fungi, because they reproduce by the simple protrusion of buds which enlarge, then separate from and develop all the

functions of the mature plant. A cake of household yeast is but an aggregation of the organisms in this group. The plants forming this division, are usually saprophytes, yet one species, the *oidium albicans*, growing on the mucous membrane of the mouth, causes the white spots called *thrush*.

8. The *bacteria*, called dividing fungi, because reproduction usually proceeds by division or fission of a plant into two parts, each of which possesses all the functions of the original plant.

These three divisions of microbes have no sexual reproduction analogous to that of the higher plants—no male and female organs like stamen and pistil—but propagate rapidly by *spores* and *fission*. The rapidity of increase by these processes is beyond conception. An eminent biologist has found that a single bacterium divides into two within an hour, and subdivides into four at the end of another hour. That the number derived from a single bacterium will amount to 16,500,000 in twenty-four hours and in five days, enough bacteria to cover every ocean on the globe one mile in depth.

Yet the survival of the fittest and the influences of environment have kept these prolific organisms so well in check that centuries passed before man even recognized the existence of these his microscopic contemporaries and possible ancestors.

STRUCTURE OF BACTERIA.

Each bacterium is a microscopic cell surrounded by its cellulose wall, within which is the homogeneous cell-body composed of protoplasm which presents little structure save granulations. The presence of nuclei and nucleoli is not fully settled in all cases. In certain species, hair-like protrusions called *flagella*, located at the poles or at the sides of the cell, are the organs of locomotion. The rapid vibrations of these cilia propel the bacterium across the microscopic field as the oars propel the skiff across the water. The organisms often perform the most elaborate series of movements—swim slowly, turn about, roll over, plunge off again, and so on till the eye tires in following them. A glass making one of these plants look as large as a pin's head, if it could be applied to him, would make a man look four times as big as Mount Washington.

SPECIES OF BACTERIA.

Bacteria include many different species of plants, each as distinct from the rest as the oak is from other trees. Nearly 800 species have been already identified and studied but the work is still incomplete.

Bacteria can not arise *de novo*, but must spring from pre-existing bacteria. One kind will not produce another kind—a bacillus does not arise from a micrococcus, nor does the typhoid bacillus produce the bacillus of tetanus.

CLASSIFICATION.

nomenclature in bacteriology is still in a chaotic

condition. Microbes are essentially polymorphous, and adapt themselves to varied conditions of existence, which influence the form taken by the organisms. Hence their classification does not yet rely on precise data, but proceeds by affirmation, negation, speculation, following one another in rapid succession, in accordance with Hegel's definition of progress "which," he says, "traverses three successive stages. The second is the negation of the first. The last approaches the first in its form, but explains the contradiction of the first two."

In the rush of advancing science, much of that considered known to day is relegated to the unknown tomorrow. But as enemies can be combated successfully only when their powers and peculiarities are known, we should, at least, be familiar with all that is settled concerning man's most virulent enemies, these omnipresent micro organisms. The most scrupulous care in their study becomes indispensable for their subjugation.

All individual bacteria have one of three shapes—glandular, cylindrical, or spiral. Hence, they may be classified into:

1. *Micrococci* of globular shape like marbles. Growing in pairs, they are called *diplococci*; in chains, *streptococci*; in mass like a bunch of grapes, *staphylococci*.
2. *Bacilli* of cylindrical shape like lead-pencils.
3. *Spirilla* of spiral shape like corkscrews.

These divisions do not indicate definite species, but denote only the morphological character of the organisms, represented best by marbles, lead-pencils, corkscrews. Their better comprehension, as to function, demands qualification, as micrococcus *pyogenes*, bacillus *tuberculosis*, *pathogenic*, *chromogenic*, *bromogenic*, etc.

The *diplococcus pneumoniae* is found in 90 per cent of croupous pneumonia, usually only during the "prune juice," or first stage. The principal etiological factor in pneumonia, it also stands in some causative relation with all infectious inflammations. Besides its favorite seat in the lungs, it is omnipresent in healthy mouth secretion only requiring a break in the continuity of the mucous membrane to develop the disease.

The *streptococcus pyogenes* is one of the most important of the pyogenic cocci. Causing *erysipelas*, the microbe resides in great numbers in the lymphatic glands and ducts during the infection. Inoculated subcutaneously into the ear of a rabbit, an erysipelatous condition soon develops and rapidly spreads from point of infection. This bacterium causes *endocarditis* when it grows on the valves of the heart, *puerperal fever*, when it infects the endometrium.

The *staphylococcus pyogenes aureus* is found abundantly in air, water, earth and sputum of healthy persons. Suppuration is nearly always produced by this microbe, it being found in 80 per cent of all suppurative inflammations. Brought into contact with wounds, they produce suppuration. They may even gain entrance through the uninjured skin. Garré, by rubbing these cocci into the skin of his arm, produced a carbuncle, in the purulent discharge of which, he found staphylococci. This

microbe grows in clusters like grapes, hence the prefix *stapholo*, which means "grape." It thrives at ordinary temperature without air.

The *bacillus tuberculosis* finds an abode in a large majority of mankind. It is probable that this microbe finds entrance into every human being. The human tissues, as a rule, are unfavorable soil for its growth, yet one-seventh of our race succumb to its ravages. It is a small, slender rod, nearly straight, one-fourth the length of a red corpuscle's diameter.

The *bacillus prodigiosus*, one of the most interesting among—the non-pathogenic bacilli, is familiar through legend and song—the bleeding bread, the bleeding holy wafer, etc.

The *spirillum cholerae*, or comma bacillus of cholera, was identified by Robert Koch in 1883.

The microbe is about half the size of a tubercle bacillus, is supplied with flagella and is very motile.

HOW THE ORGANISMS ARE STUDIED.

The technique of investigating these microscopic plants is manifold. Microscopy alone is inadequate. Identification requires other tests than those afforded by the microscope.

These tests are:

1. Staining agents.
2. Appearance of cultures.
3. Reaction to heat and oxygen.
4. Pathogeny.

1. *Staining agents*.—Watery solution of the aniline dyes penetrates the protoplasm in the cell bodies of most bacteria, yet the tubercle bacillus long eluded observation because it absorbs the solution only when the water is reinforced by some other agent like carbolic acid or alcohol. This microbe is stained with great difficulty, but once stained, it is very resistant to decolorizing agents. Upon these facts, all staining solutions and methods of staining are founded. Some operate slowly, others more rapidly.

In order to appreciate and differentiate the tubercle bacillus, the following solutions and methods of use, are more easy and simple to manipulate than any others with which the writer is acquainted. It is hoped they may prove as acceptable as those you are now using.

I.			
Fuchsin pulv.	.	.	15 grains.
Alcohol	.	.	2 drams.
Aquæ distillat.	.	.	1 ounce.

II.			
Aquæ distillat.	.	.	1 ounce.
Liquor ammonia	.	.	3 minims.

III.			
Alcohol	.	.	1½ ounces.
Aquæ distillat.	.	.	6 drams.
Nitric acid	.	.	½ dram.
Aniline, green, to saturation.			

To stain:

1. Gently press a small part of the most solid portion of the suspected sputum between two cover glasses.

2. During five minutes, place one cover glass in equal portions of solutions *one* and *two*, heated till vapor rises.

3. Rinse in water, put a drop of solution *three* on it, rinse again. If the mount is not a distinct green, put on another drop of solution *three*, was again, dry and examine.

The use of the following will also afford gratifying results:

ZIEHL'S SOLUTION.

Fuchsin pulv.	.	.	1 part.
Alcohol	.	.	10 parts.
Acid carbolic, 5% sol.	.	.	100 parts.

GABBET'S SOLUTION.

Methylin blue	.	.	2 parts.
Acid sulphuric, 25% sol.	.	.	100 parts.

1. Prepare mount as above, hold high over a flame until dry.

2. Place cover-glass in Ziehl's solution *five* minutes.

3. Place cover-glass in Gabbet's solution *one* minute.

4. Dry, examine with oil immersion.

If a hurried diagnosis is unimportant, but permanent mounts desired:

1. Place cover-glass, with dried sputum, in Ziehl's solution *twelve* hours.

2. Hold in nitric acid, 25 per cent solution, till brownish black.

3. Hold in alcohol *five* seconds.

4. Hold in water *one* second.

5. Dip once in *two*, *three*, and *four*, if color is deeper than light pink.

6. Cover mount with Gabbet's solution *two* minutes.

7. Dry and examine as above.

A one eighth or one-sixth objective, in other words, the enlargement of 400 diameters, with or without eyepiece multiplication, produces a clear field sufficient for diagnostic purposes.

Alcohol mixed with fresh sputum to preserve it, coagulates the albumen which should be softened with a two per cent solution of caustic potash before spreading over a cover glass. A saturated solution of borax preserves the sputum, liquefies the mucus and does not coagulate the albumen.

Most cocci take Gram's staining readily. The *gonococcus*, however, being an exception, will not take Gram's method, this being one of its main diagnostic features. It takes all the ordinary aniline stains.

GRAM'S SOLUTION.

Iodine	.	.	1 part.
Potassi Iodidi	.	.	2 parts.
Aquæ distillat.	.	.	300 parts.

The potash is not indispensable but added to facilitate solution.

2. *The color of colonies*.—If the individual bacteria

in any given species be grown on a suitable soil, such as gelatine, bouillon or potato, there results a mass or colony of these minute plants whose size, shape and color afford essential means of differentiating the organisms, and the bacteriologist uses them for recognizing his minute plants just as the chemist uses the behavior of a given substance to identify his still more minute molecules. The streptococcus grows into light gray colonies, while the staphylococcus produces bright yellow.

It is only when growing in masses that enough color is formed to be visible. Not infrequently are these colored masses so luminous that they can be photographed by their own light when placed in a dark room.

Indeed, the color of our mischievous microbe played a conspicuous part in many of those natural phenomena which, by their lack of apparent cause, were in early times relegated to the domain of the supernatural. That wavering, cold, uncanny phosphorescent light, seen at night time in putrid plants or by the sea side, is our innocuous microbe. The consecrated wafer placed in the bacteria-laden air of the church edifice over night was found besprinkled with crimson drops in the morning. These crimson drops were called blood—a counter part to the hand writing on the wall.

The legends are long and tragic of the dire calamities, unmentionable crimes and swift retributions which the strange appearance of our chromogenic microbe was supposed to foreshadow. How many lives were sacrificed and homes destroyed through the ecclesiastical delusions—the will-o'-the-wisp and the mercale of the bleeding Host, it were useless now even to conjecture.

A recourse to the supernatural to elucidate all these natural phenomena, is no longer necessary, for to day, we cultivate and study the tiny *bacillus prodigiosus* which made the drops of blood, the mingled green and blue phosphorescence.

3. *Heat and Oxygen*.—Like the larger plants, different species of bacteria require different temperatures for their growth. Most all grow well at 60° to 80° F., but the tubercle bacillus ceases to grow below 92° F.

As microbes assume very diverse forms in accordance with the nature of their environments, so also their habitat and mode of life divide them into very distinct classes.

The *aerobines* can subsist only when they breathe the natural oxygen they withdraw from the atmosphere.

The *anaerobines* live within fluids and living organisms and derive the oxygen necessary for their respiration from the oxygenated substances in which they are found. To the latter class, belong all microbes which provoke pathological changes when introduced into the blood.

4. *Pathogenesis*.—Living animal tissues afford unfavorable soil for bacterial growth. When introduced into animals a large majority produce no appreciable effect. It is now known, however, that upwards of *thirty* species are capable of nourishing themselves in animal tissues. No species is pathogenic in all animals

but each only in certain kinds. The anthrax bacillus grows well in sheep but refuses to grow when planted in dogs and cats. Hence, the behavior of a given species when inoculated into different animals, is another means of differentiating the organisms.

RESULTS OF BACTERIAL LIFE.

The results of bacterial life can be better understood by reference to analogous phenomena exhibited by the larger plants. The latter elaborate from the soil and the air brilliant colors and fragrant odors in the rose, nutritious compounds in the fruits, deadly poisons in the alkaloids. But a tree is only an aggregation of cells, hence the best *apriori* evidence that an aggregation of these cells, called bacteria, would exhibit the same general phenomena. Such is the fact. Bacteria evolve colored products, pungent odors, nutritious compounds, poisonous substances, known as ptomaines,—leucomaines, ferments, alkaloids, toxins, toxalbumins—which exercise a virulent influence upon the living organism, by circulating in the blood, and interfering with vital processes as do strychnine, morphine and other poisonous products of the larger plants. These bacterial products are the result both of analytic and synthetic action of the microbes through:

1. Fermentation.
2. Putrefaction.
3. Infection.

1. *Fermentation* includes the various bacterial decompositions of carbohydrates, like the decomposition of grape sugar with the formation of alcohol and carbon dioxide, by the yeast plant and different species of bacteria.

Such chemical changes are caused by a nitrogenous, organic substance, either animal or vegetable, called a *ferment*, which acts by mere contact, the ferment itself remaining unchanged in composition and undiminished in quantity. So long as this organism is excluded, fermentation is impossible. Ptyalin is a ferment which converts starch into glucose. So are pepsin and trypsin, both of which serve to convert the albuminoids into peptones during the process of normal digestion,—the one in acid, the other in alkaline solution. These physiological ferments so essential to digestion, are harmless in the alimentary canal, where they belong, but deadly poisons when introduced into the circulation, causing decomposition and coagulation of the blood, pyrexia and all the symptoms of clinical septicemia. It is a ferment which makes the venom of the rattle-snake so deadly when introduced into the circulation. Like ptyalin and pepsin, it is harmless in the mouth, and may be sucked from the wound made by the snake with perfect impunity.

Certain bacteria elaborate products belonging to this class of poisons—the ferments. The cholera spirillum produces a substance which, like pepsin, changes coagulated albumen into peptone. This explains why death by cholera is so sudden, even when the comma bacillus is still only found in the intestines. Although the bac-

terium has not been absorbed into the blood, the poisonous alkaloid or ptomaine which it secretes is in the circulation and causes the nervous symptoms, such as cramp, which characterize this disease. We can understand, therefore, why the introduction of such bacteria into the body is followed by violent and rapidly fatal poisoning.

Recent research tends to show that normal digestion whether gastric, pancreatic, or intestinal, together with changes connected with nutrition and assimilation, are true fermentations; that numerous bacteria live in the digestive canal of a man in good health; that these microbes are not only innocuous, but play an active part in gastric digestion, especially the transmutation of albuminoids into peptones. Since they are living ferments, the transmutation is retarded if the organisms be eliminated. It is therefore probable that they manufacture products analogous to pepsin.

In all these phenomena of microbial life, we observe a duality of action—*analytic* and *synthetic*. The microbe seems to appropriate the oxygen in the substance to be fermented then destroys the substance by the secretion of the fermented products.

This dual activity will be farther examined under:

2. *Putrefaction*.—The bacterial decomposition of albuminous compounds is called putrefaction. It is the beginning and end of that endless chain of nature, in which there is no creation, no destruction. Plants live from the soil and are devoured by animals; animals are devoured by microbes and return through putrefaction to inorganic matter, to serve anew for the nutrition of plants. The one has its birth in the corruption of the other. When that mysterious group of activities which we call life ceases to be manifested, bacteria enter and putrefaction begins in animals and plants alike.

These phenomena in putrid fermentation have a striking resemblance to those occurring in the fermentations which accompany the nutrition of animals and plants. Putrefaction may be the fermentation of necrotic tissues within a living organism while the healthy, physiological tissues remain very resistant.

As the larger plants elaborate vegetable poisons like strychnine, atropine, etc., called alkaloids because they present certain general properties of alkalies, so the bacteria, share with the larger plants, the property of producing poisonous alkaloids many of which have been identified and studied. Bacterial alkaloids have been discovered almost identical with morphine, atropine, strychnine, coniine, veratrine, digitaline and colchicine. These bacterial alkaloids have a wide range of toxicological interest since they are formed in the human cadaver, about three days after death, where their chemical reactions closely resemble those of strychnine and other vegetable alkaloids of the larger plants administered for a murderous purpose.

Indeed, it was the prosecution of some of the most noted murder trials the world has ever seen that lead to the original discovery of these microbial alkaloids in the human cadaver. You are familiar with many of

the details. The prosecution endeavored to make out cases of poisoning by strychnine, coniine, morphine and veratrine, but on establishing the alkaloids found, the prisoner in each case was ultimately acquitted.

These findings completely disproved the general conviction that alkaloids could be produced only by the larger plants, and pointed to the conclusion that microbes could elaborate in the living body, the same products which they formed in putrescent tissues. In other words, that the infectious diseases produced by the microbes, might give rise to the alkaloids in the diseased organism.

Such is now known to be the fact. Formed within the dead body, beginning on the third day after death, such products are called *ptomaines*, from "ptoma," meaning cadaver; found in necrotic tissues within the living body, they are more generally known as *leucomaines*.

The term ptomaine may include three distinct classes of compounds, differing one from another in both chemical behavior and physiological effects—*ferments*, *alkaloids*, *tox-albumens*. Ptomaine thus used includes leucomaine. The name given to these bacterial products is unimportant, but their behavior when formed within living tissues is all important.

Putrefaction is always accompanied by the formation of ptomaines, so too, animal life, which goes on in the absence of free oxygen, leads to the formation of leucomaines, or tox-albumens, such as creatine and creatinine normally excreted by the kidneys, the arrest of which by acute nephritis, or otherwise, results in rapid and fatal intoxication or poisoning. The poisonous secretions of venomous animals are leucomaines.

Many of the pathogenic bacteria not only produce similar poisonous compounds but some species produce several distinct poisons at the same time. The cholera spirillum forms a poisonous ferment and an alkaloid; the tetanus bacillus an alkaloid and a tox-albumen; the diphtheria bacillus a ferment and tox-albumen.

"When the demand for oxygen within the body is augmented, as in anemia and the infectious diseases, bacteria elaborate poisonous alkaloids. And it may be affirmed that alkaloids, whether formed by vegetables or by microbes, are of the same nature and everywhere derived from the same source,—albuminous decomposition in the absence of a sufficient quantity of oxygen."

Ptomaines and leucomaines are products from both analytic and synthetic action of the microbes. In splenic fever, the bacilli which swarm in the blood abstract from the corpuscles the oxygen, and thus produce asphyxia and death. But it happens, even in anthrax, that death is so rapid that the bacilli have not yet had time to develop in the blood in numbers sufficient to produce such fatal effects. Some other cause, therefore, is required. It is found in the toxins formed by the synthetic action of the microbes of putrefaction. They are made, *de novo*, by the microbes, as truly as alcohol and carbon dioxide of alcoholic fermentation are made by the yeast microbes, at the expense of the tissues

which they feed upon. Such microbial poisons not infrequently cause disease indirectly by the ingestion of such articles of food as raw meat, canned foods, etc., which have been fermented or putrified by bacteria prior to ingestion. In these cases, disease is caused by the toxins formed, not within the body, but within the food prior to ingestion. Such poisoning by preformed bacterial products is known as *intoxication*. A familiar example of poisoning by a preformed bacterial toxin is alcoholic intoxication.

3. *Infection*.—The bacterial decomposition of living tissues with the production of poisonous products is called an infection. The circulation of these poisons in the blood constitutes an infectious disease. An infectious disease, therefore, may be defined as a specific fermentation of living tissues, dependent on the life and multiplication of pathogenic microbes, just as alcoholic fermentation depends on the life of the yeast, but independent of the number of microbes introduced and appears after an incubation necessary for their development.

There are more than *thirty* species of bacteria, each capable of inducing an infection in one or more varieties of animals, including man, consequently there are more than thirty infectious diseases of proven bacterial origin.

ANTISEPSIS AND ASEPSIS.

The life history of pathogenic bacteria being better understood, Listerism soon revolutionized the methods of warfare against the omnipresent organisms. The discovery that wound infection,—septicemia, pyemia, tetanus,—which, until fifteen years ago made surgery appalling, is caused by microbes, was followed by antiseptic methods making death, from operation, the exception rather than the rule. The progressive tendency of surgery, however, did not permit Listerism to rest long upon its achievements. The discovery that atmospheric microbes are mainly innocuous led to the decadence of the spray. Wounds not poisoned with such toxic substances as carbolic acid were seen to heal more kindly. Asepsis was substituted for antiseptics. Tersely put by one writer: "This change, however, can not disturb the glorious foundation laid by Joseph Lister, to whom we owe the mother, Antisepsis, who, though she died in parturition, brought forth her idealization, Asepsis."

NATURAL PROTECTION AGAINST MICROBES.

If animal life was not endowed with great powers to combat these omnipresent organisms the race long since must have become extinct. The integument normally constitutes a soil unfit for bacterial growth. But if the microbe enters the body through a break of continuity, air, food, or otherwise, it meets another and more potent means of defense in the living tissues themselves, for they contain substances which are inimical to bacterial—substances which actually destroy and poison

The problem, how the tissues destroy these invading organisms, is not fully solved, but it has been shown that two factors are concerned:

1. Normal blood serum contains an albuminous compound which is a direct poison to bacteria.
2. Leucocytes, or phagocytes have been shown to possess the power of inclosing or swallowing bacteria and thus destroy them.

DEFECTS OF NATURAL PROTECTION.

The protecting skin, the poisonous serum, and the hungry phagocytes all combined fail to prevent the entrance and multiplication of microbes, in living tissues, in all cases. In the infectious diseases, these microbes grow and elaborate their poisonous ptomaines in spite of the absence of free oxygen, the high temperature, the blood-serum and the wandering leucocytes.

Certain kinds of bacteria do not have the same behavior in all species of animals. Anthrax bacilli thrive in the mouse, secrete their ptomaines which destroy the animal within a few hours. So uniform is this action that mice are used as a test for anthrax bacilli, just as Marsh's process is used as a test for arsenic. The tubercle bacillus grows in the guinea-pig, the tetanus bacillus in the horse, the glanders bacillus in the cat, the diphtheria bacillus in the rabbit. Each of these animals offering a fertile soil for the respective microbe mentioned, has natural protection against others. The mouse resists the diphtheria bacillus, the guinea pig the pneumococcus, the cat the anthrax bacillus. The power of resisting bacterial invasion varies in different species of animals, also in animals of the same species. Thus anthrax bacilli, as a rule, grow in the sheep family, yet certain individual sheep resist inoculation with these microbes. The tubercle bacilli thrive in human tissues. One-seventh of the race perish from its ravages, yet a majority escape because the tissues do not permit the plants to grow.

An infectious disease, therefore, depends upon two indispensable conditions:

1. A microbe capable of producing ptomaines in living tissues.
2. Living tissues innocuous to this particular species of microbe.

The natural power possessed by animal tissues of destroying bacteria is increased by wholesome surroundings. Pasteur inoculated rabbits with tubercle bacilli. The half kept confined in cages all died of tuberculosis, while the other half allowed to run in the field suffered a loss of only one. Clinical experience accords with such experimental evidence. The best remedial agent in the treatment of phthisis is residence in a proper climate.

Not only does the power of destroying microbes vary in the tissues, but the other factor of infection—the ptomaines secreted by the microbes—presents still greater variations.

The products of the larger plants vary in quality with

climate and soil. The peach grown in Florida is more luscious than the one grown in Minnesota.

Similarly the fruits of the smaller plants, the bacteria, are found to vary with the surroundings of their development. The ptomaines of anthrax bacilli growing on gelatine at 70° F., are poisonous to sheep, rabbits, guinea-pigs and mice, but if the temperature be raised to 108.7° F., the ptomaines produced become gradually less poisonous. In ten days, they are too feeble to kill sheep, though still fatal to the other animals named. In twelve days they fail to kill rabbits, though still destructive to guinea-pigs and mice. In twenty days, the bacteria produce a ptomaine too feeble to kill guinea pigs, but will still kill mice. After twenty-five days, the ptomaine is so harmless that even mice escape its ravages.

Similar loss of poisonous qualities can be induced by unfavorable temperature and soil upon many other bacteria, notably those of diphtheria and pneumonia.

A comparison of different sowings, or plantings of the diphtheritic microbe, shows a difference in its vitality and virulent properties. Some multiply rapidly, succeeding each other up to many generations, while others only go to the second, third, or fourth generation. The organism is the same in each case, but modified by the medium in which it is developed. The activity of the plant is increased by its culture and by the vitality of the original plant which gave it birth. The microbe of diphtheria, as well as that of all infectious diseases, become more or less virulent according to these conditions, hence those of malignant diphtheria are more to be dreaded than those of the ordinary benignant type of the disease. Developed within favorable soil, they are still more to be dreaded than those grown within unfavorable tissues. The dual nature of diphtheria, the one dependent on micrococci the other on bacilli, as indicated by the original researches of Klebs and Loeffler, is not supported by fact. Both the symptoms and the histological lesions of this disease, are in favor of its unity, and it is owing to the specific ferment and tox albumen elaborated by the microbe that the disease is more or less severe.

If the seed plant is not healthful, if the tissues in which it grows do not furnish suitable food for its nourishment, the ferment and tox albumen which the microbe secretes, will be dwarfed or attenuated, and consequently will produce a mild form of the disease. Analogous phenomena are observed in the life history of all pathogenic species of bacteria and in all infectious diseases.

Microbes especially cultivated, or attenuated are employed to confer

IMMUNITY

on animal tissues. Inoculated into living tissues, attenuated bacteria produce a mild attack through which the animal acquires immunity against the disease, until the tissues regain the proper pabulum which the microbes feed upon. It is probable, though not proven, that cow-

pox and human small-pox are caused by the same bacterium; that the organism finds a less favorable soil in the tissues of a cow, and growing in that animal undergoes a weakening or attenuation. Hence when removed from the cow to the human tissues, the organism produces only a mild form of the disease. The steel coil burns with dazzling brightness in a jar of pure oxygen, but combustion of this material becomes impossible in diluted or "attenuated" oxygen as found in the atmosphere. The seed and the soil run *pari passu* in all the infectious diseases.

The work of making animal life immune against all pathogenic species of bacteria is one of great pecuniary value in preventing infectious diseases in the lower order of animals, and reveals vast possibilities in human prophylaxis and therapeutics.

Xeroform — (Tribromphenol-Bismuth). A New Antiseptic in Powder Form.

BY DR. E. HEUSS, ZURICH, SWITZERLAND.

It is well known that the phenols, viz.: carbolic acid, cresol, pyrogallol, naphthol, etc., are the most powerful antiseptics of all the non mineral remedies at our disposal. It is unfortunate that their poisonous and caustic properties stand in the way of their unlimited medical use. These deleterious qualities are dependent on the free uncombined hydroxyl group that they contain. They disappear when that hydroxyl group is combined; phenol with salicylic acid giving us salol, creosote or guaiacol with carbonic acid giving us the carbonate of creosote or guaiacol. Compared with free phenol, creosote, and guaiacol, these combinations are non poisonous. Thus creosote carbonate can be given in daily doses of five drams without difficulty, whilst creosote alone in any such dose would cause a fatal gastro-enteritis.

Unfortunately, however, with this combination of the hydroxyl group, with this loss of poisonous properties, these phenols lose the greater part of their antiseptic action. That salol, creosote-carbonate, guaiacol-carbonate, and the rest still have such excellent therapeutic effects depends on the fact that, by chemical action in the intestine or in wounds, they are gradually decomposed again; salol, for instance, becoming split up into carbolic and salicylic acids. This reconstruction of the phenols in the body, however, takes place so gradually and over so large a surface, that there is no question of the occurrence of a poisonous or local cauterizant effect, as would be the case after the ingestion of carbolic acid or creosote.

The formation of phenols under these circumstances in wounds, on the skin, or in the intestines in an acute disease like cholera, is so slow and so imperfect that we frequently fail to get a satisfactory result from their use. In these cases we would desire to have the phenols so lightly united that they could still more readily an-

more rapidly be released from their non-poisonous combinations. This can be effected by the combination of the phenols with bismuth. These compounds, the bismuth phenolates, are quickly decomposed by contact with the bodily fluids, and soon give off sufficient quantities of phenol. Thus tribromphenol bismuth has given very good results in cholera.

Tribromphenol bismuth, or xeroform has proven to be the best of this new group of antiseptics; in the first place, because its 49.5% of oxide of bismuth, it contains 50% of tribromphenol as against about 20% of phenol, and naphthol in the other phenolates. In the second place it is the best because, as Hueppe has shown, tribromphenol has a much stronger antiseptic action than has phenol.

PROPERTIES.—Xeroform or tribromphenol-bismuth, which the manufacturers, the Chemische Fabrik Von Heyden, in Radebeul Dresden, have most liberally placed at my disposal for experimental purposes, is a bismuth phenolate with the formula $C_6H_3Br_3 O Bi O$. It is decomposed by strong acids, as well as by alkalies, and specially with the aid of heat, into tribromphenol and bismuth oxide. It is a yellow, neutral, insoluble, very fine powder, and does not decompose under the influence of light. It has a very slight phenol odor, no taste at all, is almost non poisonous, and acts as an indigestible substance to the most sensitive mucosæ or the digestive organs, the naso pharyngeal space, etc.

I first became acquainted with xeroform in the spring of 1893. I had been treating a student affected with a serpiginous chancroid of the sheath of the penis for weeks without result. After I had exhausted all the remedies usually employed, in despair I took up xeroform, which I had never used, though I had received it months before. The result was astounding; from the moment of its application the painfulness of the ulceration diminished, the inflammation retrogressed, and the ulcer no longer spread. On the third day there was a marked tendency to cicatrization, and by the twelfth day the ulcer, which occupied half the surface of the dorsum of the penis, was fully healed.

Since that time I have used xeroform in other chancroidal cases, and always with the most favorable effects. If there were no complicating bubos the affection ended in from 8 to 14 days, almost as if the drug had a specific action. One cardinal condition, however, is requisite, not only in chancroid but also in other ulceration, and that is that the xeroform should come into direct contact with the living tissues, and that all pus and necrotic material should be removed from the wound. I shall return to this later on. When the ulcers were very foul, I began the treatment with a cauterization with pure liquefied carbolic acid, to hasten the casting off of the detritus, etc.

Similar good effects, viz., cessation of suppuration, decrease of sensitiveness, diminution of odor, non-extension of inflammation, and rapid cicatrization occurred also under xeroform in other suppurative processes, such as infected wounds, panaritiums, suppu-

tive buboes, etc. Neither I nor the other physicians, who experimented with the drug, ever saw inflammatory reaction in the surrounding tissues, no matter how freely the remedy was used. There were no complicating erythemas, dermatitis or eczemas, as so often occur after iodoform. On the contrary, the bases of the ulcers soon assumed a healthy appearance and the inflammatory symptoms rapidly retrogressed.

This latter most valuable property, in addition to the decreased necessity of frequent changings of the dressings, made xeroform especially valuable in the treatment of ulcers of the leg. After the surface of the ulcer has been thoroughly cleansed, and its callous edges softened with hot compresses, perhaps with the assistance of irritant solutions, as the vin. camphorat. or the aq. phagedenic. lut., they healed rapidly under xeroform with the zinco gelatine bandage, and without the patient going to bed.

Fresh and non infected wounds, as after excisions, healed entirely aseptically, and without reaction. In burns xeroform, like iodoform, appears to quiet the pain. In a single case, which I did not myself see, there was fairly acute pain for three hours after the application of xeroform.

I use xeroform also in suppurative inflammatory affections of the skin, impetigo, sycosis, etc., but the results were not so brilliant as compared with other remedies. In eczema impetiginosum and eczema madidans, I saw a rapid cessation of the secretion and healing under a 10% xeroform paste; after that I had to employ the ordinary anti-eczematous remedies. In some cases of simple local puritus, of the vagina, anus, etc., it stopped the itching. Certain tuberculous ulcerations and glands cicatrized rapidly under xeroform, after they were curetted out, in other skin diseases, for reasons that can be readily understood I did not use the drug.

In conjunction with Dr. Hesse, of Dresden, some bacteriological investigations were undertaken as regards the comparative disinfectant power of iodoform and xeroform.

I excerpt the following from the communication that Dr. Hesse has been kind enough to place at my disposal; he will himself in a future communication recount his results at length.

After various preliminary trials the following experiment was performed November 21, 1895:

Nineteen agar-agar plates (Petri's) were taken and exposed for half an hour to the ordinary air of the laboratory. They were then treated as follows:

A. Five were strewn with iodoform, in different amounts.

No. 1, with a thin layer.

No. 2, with a somewhat thicker layer.

No. 3, with a still thicker layer.

No. 4, half covered with a thick layer, whilst the other half remained exposed.

No. 5, each quarter with a thin, thicker and very thick layer, whilst the fourth quarter remained uncovered.

B. Five other plates were treated in a similar way with xeroform.

C. Four plates were untreated, for control purposes. The results were as follows:

1. On the four control plate (*C*) there developed up to November 23, some 40 to 60 colonies. Some of them showed a tendency to spread so rapidly on the surface of the agar agar that after that date the colonies could no longer be counted.

2. On the iodoform plates the colonies developed somewhat more slowly, but in about the same number as in the control plates; they were also fairly evenly distributed, so that the thickness of the iodoform layer seemed to have no special effect.

3. On the xeroform plates there were the less colonies the thicker the layer of the powder. On the sparsely strewn plate there were about as many colonies, some 40, as on the control plates; on those more thickly covered there were 10, whilst on the most thickly strewn there were only 4. The same differences were plainly observed in the partially covered plates.

Thus it was shown that iodoform interfered with their growth but very little, though the colonies increased slowly, and showing but little tendency to spread superficially; whilst xeroform hindered their growth, and in thick layers seemed to stop it entirely.

Similar results were obtained from experiments made at the Hygienic Institute of this city.

Gelatine tubes were inoculated with from 1 to 3 loops of fresh cultures of, 1. *Bacillus prodigiosus*, 2. *Staphylococcus aureus*, 3. *Bacterium coli*, and poured out into Petri vessels. After setting they were evenly strewn with (*A*) iodoform, (*B*) xeroform, whilst some were left unstrewn for the purpose of control. Repeated series of these experiments always showed that under xeroform the solution and color production of *prodigiosus* was decidedly impeded; that with *staphylococcus* no difference was to be seen; that with the *bacterium coli* the xeroform cultures grew more sparsely than they did with iodoform or in the control vessels.

The mode of application of xeroform is the same as that of iodoform. After thorough cleansing and disinfection of the surface, possibly with sublimate, the powder is dusted on lightly with a camel's hair brush or an insufflator, and a bandage applied. The excessive fineness of xeroform powder facilitates this process. The xeroform gauze that has lately been supplied seems to be very good. This latter possesses the additional advantage that it may be sterilized again after the gauze has been prepared, since xeroform can be heated up to 255°F. without undergoing decomposition. I used the drug also in 10 to 20% paste or salve in suitable cases, but its disinfectant power seemed to suffer when in combination with fats. I therefore preferred to use 10 to 20% emulsions.

I can summarize the advantages of xeroform as follows:

1. Xeroform is non-poisonous.
2. Xeroform is almost odorless and tasteless.

3. Xeroform is entirely non irritating, even to inflamed mucosæ.

4. Xeroform unites the action of the phenols, and more especially of tribromphenol with that of bismuth; it is powerfully antibacterial and antifermentative, and is not only an excellent intestinal antiseptic, but also a very powerful antiseptic for wounds.

5. In wounds xeroform promotes epithelial growth, and also lessens the pain.

6. Xeroform does not change under the influence of light; and, since it is not decomposed by a temperature of 255°F., it can be readily sterilized.

7. Xeroform has double the volume of an equal weight of iodoform. Only half the quantity of the latter is required to cover a wounded surface.

I believe that I can maintain that we have in xeroform a disinfectant that is worthy to be placed by the side of iodoform, whilst possessing other important advantages over it; and that at all events it deserves a further trial.

A Use for Patent Medicine Literature.—

It is a favorite axiom of the optimists that everything has its uses (*Jour. Amer. Med. Ass'n*). But it has remained for the New Mexico Territorial Board of Health to find a use for the patent medicine almanac. In a recently issued circular on the prevention of consumption, among other things, it is advised that "every person so affected should spit into some receptacle and should see that the sputum is soon destroyed by fire. About the house there is no better way than to spit between the leaves of patent medicine almanacs—to be had freely at all drug stores—and after a half dozen or more spittings burn the book."

Sudden Death After Lumbar Puncture.

—P. Fuerbinger (*Cent. f. Inn. Med.*), reports a case of cerebellar tumor in which death suddenly occurred six hours after lumbar puncture. Of 86 previously published cases in which spinal puncture was carried out, death occurred unexpectedly in four. It is worthy of note that of five cases of cerebellar tumor in which the author practiced lumbar puncture, no less than three died suddenly within 6–40 hours. In two of these cases autopsy showed tumor of the cerebellum; in all three there was considerable dilatation and filling of the lateral ventricles; in the subarachnoidal and subdural spaces of the spinal cord there was but little fluid. Tumors in the neighborhood of the fourth ventricle produce by compression partial or complete arrest of communication between the ventricles, subarachnoidal and subdural spaces. The possible cause of the sudden death after lumbar puncture, the author thinks, lies in disturbances of nutrition of the brain substance, caused by abstraction of fluid and consequent pressure exerted upon the cerebellum by the rigid margins of the depressions in the occipital bone.

MEDICAL REVIEW.

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PUBLISHED UNDER THE AUSPICES OF THE
MEDICAL REVIEW ASSOCIATION

BY O. H. DREYER.

YEARLY SUBSCRIPTION, \$3.50. SINGLE COPIES, 10 Cents.

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Members of the profession who send us information of matters of general interest to our readers will be considered as doing them and us a favor, and we shall take pleasure in inserting the substance of such communications.

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Entered at the St. Louis Postoffice as Second-Class Matter.

Some of Professor Kelly's Recent Work at the Johns Hopkins Hospital.

There are few operators in this or other countries who are as prolific in successfully devising new operations or improving upon old ones as Dr. Howard A. Kelly, of the Johns Hopkins University. In a previous issue of this journal his operation of "Hysterectomy and Hystero Salpingo Oophorectomy by Continuous Incision From Left to Right or Right to Left," has been described and illustrated in the form of an abstract of the original paper published in the *Bulletin of the Johns Hopkins Hospital*. Some other important recent contributions of gynecological operative procedures by the same author are "The Treatment of Large Vesico-Vaginal Fistulae," "Extirpation of the Kidney and Ureter Simultaneously," and "Treatment of Extra-Uterine Pregnancy."

Dr. Kelly's method of operating large vesico-vaginal fistulae is a modification of the operative procedure of A. Mackenrodt, of Berlin, in which, after exposure of

the fistula, the cervix and urethral prominence are caught with tenaculum forceps and the tissue made tense by traction in opposite directions. An incision is made through the vaginal walls in the median line across the fistula. The margins of the fistula are split with knife and forceps so as to completely detach the bladder from the vaginal walls on all sides. The separation may be extended up to the vesico-uterine peritoneum. Thus the bladder is made movable and closed by denuding its edges and drawing them together with fine silkworm-gut sutures, beneath which a second and third layer of sutures may be placed. After closure of the bladder the vaginal wound, after denuding its margins, is approximated as far as the tissues will permit; this step being facilitated by a traction forward of the corpus uteri. If the margins will not come together they are sewed to the uterus on each side so as to form a firm support in the place of the fistulous opening.

In a case which had been operated unsuccessfully by five different surgeons Dr. Kelly devised an ingenious plan of operating as there did not appear to be any chance of success by any known method of denudation or suture. The operator gives a description of the case in the *Bulletin of the Johns Hopkins Hospital*, Vol. vii, Nos. 59 and 60:

"The patient, Mrs. Y., aged 40, 5-par., was operated upon September 25, 1895. She had had a urinary fistula ever since her third labor, eight years ago. The bladder was found everted through the fistula and filling the vagina with an angry red fungous-like mass; on replacing this, the anterior vaginal wall was seen to be absent, and in its place there was an enormous fistulous opening in the base of the bladder.

"The fistula measured 4 x 3 cm., and involved the anterior lip of the cervix, which was destroyed, as well as the entire neck of the bladder anteriorly (vesico-utero-urethral vaginal fistula); in front the sharp contour of the cut-off urethra presented a marked contrast to the normal funnel shaped neck of the bladder. Posteriorly to the right and left of the cervix the ureteral orifices opened on the edges of the fistula. Two or more centimeters of each ureter had evidently been sacrificed in the operations. The vaginal walls forming the margins of the fistulae were immovably fixed on all sides and contained numerous radiating bands of scar tissue. There was not the slightest chance of bringing such tissues together by any known method of denudation or suture, so Dr. Kelly employed the following method, and covered the defect successfully. The steps of the operation were:

"1. A crescentic incision separating the muscular and mucous coats of the bladder from the vagina, was made around the posterior two-thirds of the fistula, and the bladder detached from the supravaginal cervix all the way up to the peritoneum, and widely on both sides, by a blunt dissection. It was easy to avoid injuring the ureters splinted by the catheters.

"2. The operator next denuded a strip around the remaining anterior third of the fistula on its vaginal

surface, carrying the denudation down to the mucosa of the bladder and the urethra.

"3. Two flexible ureteral catheters $2\frac{1}{2}$ mm. in diameter were passed through the urethra across the fistula, and one conducted into each ureter and pushed up above the brim of the pelvis.

"4. The part of the bladder freed from its attachments behind was now easily drawn forward and accurately applied to the immovable anterior third, to which it was united by interrupted fine silkworm-gut sutures. Each suture caught the under surface of the muscular coat of the bladder so as to turn the cut edge up towards the newly formed bladder. The ureteral orifices fixed on this edge were in this way turned into the bladder, and escaped transfixion or compression by the sutures through the presence of the catheters which made their position plain.

"Dr. Kelly left these ureteral catheters *in situ* three days, draining each kidney directly through its ureter and preventing any urine from entering the bladder to put a strain on the healing tissues. In the first forty-eight hours 900 cc. of urine escaped from the right ureter and 600 cc. from the left.

"The wound healed perfectly except at the upper angle on the right, where a minute fistulous sinus 1 mm. in diameter remained, through which a little urine occasionally escaped.

"When the patient left the ward she was able to hold 100 cc. of urine in the bladder and did not have to void it more than once in three hours. The raw surface on the anterior vaginal wall was replaced by a firm contracting cicatrix. It is important to note the amount of control secured in spite of the destruction of the neck of the bladder."

Dr. Kelly does not in any case include any of the uterus and claims that his plan of operating is easier applied than Mackenrodt's where the destruction of tissue is so great as to include the upper part of the urethra. The bladder is only detached in its posterior and postero-lateral portions where the separation is most easily effected and the posterior wall of the bladder is brought into accurate apposition with the anterior vaginal wall.

This is a most ingenious and practical method of operating for extensive defects in the bladder and, it seems, the only method that is applicable in cases with such extensive loss of tissue as in the above reported case.

Another illustration of Dr. Kelly's originality as an operator is furnished by a report of three cases of extirpation of the kidney and ureter simultaneously (*Bulletin of the Johns Hopkins Hospital*, Vol. vii, Nos. 59-60); each case representing a different way of removing the kidney with its ureter. One case was operated by a transperitoneal incision 16 cm. in length through the abdominal wall, outside and parallel to the semilunar line, followed by a second incision through the peritoneum, covering the posterior abdominal and pelvic walls, for the purpose of getting at the ureter.

In the second case the kidney and ureter was extirpated by the retroperitoneal method—through a long abdominal incision beginning in the loin and extending downwards and forwards and ending in the neighborhood of the symphysis pubis. By this procedure the peritoneum is detached from its cellular connection and lifted up, the ureter being exposed without opening the peritoneal cavity.

The third case was also operated retroperitoneally, by a short abdominal and vaginal incision. The kidney was detached and the ureter freed from all its connections through a short incision in the loin, as far forward as the base of the broad ligament; the rest of the ureter being pulled through an opening made in the vault of the vagina, and removed down to its vesical end by continuing the vaginal incision forward to the neck of the bladder.

From his experience in this line of work Dr. Kelly advocates in future operations the removal of kidney and ureter by an incision in the side large enough to take out the kidney and easily admit a hand and forearm introduced for the purpose of separating the ureter from its attachments as far down as the vaginal vault. The ureter is then tied at the lowest point and removed with the kidney above the ligature and the operation completed by removing the vesical end of the ureter through the vagina, with the patient in the lithotomy position.

A serious operation like that of the removal of a kidney is, of course, only justified where the other kidney can be demonstrated with reasonable certainty as intact; with Dr. Kelly's dexterity in catheterisation of the ureters and his familiarity in the use of the cystoscope a positive diagnosis in regard to this point is very much facilitated. In the above reported cases the diagnosis of tuberculosis of one kidney was confirmed by the pathological reports of Dr. F. L. Barker and Dr. Hernndon. In every case the respective ureters were diseased to a greater or less extent.

The removal of kidney with the entire ureter attached to it has been done, we believe, for the first time by Dr. Kelly. It is self-evident that the operation can only be justified in very exceptional cases and, moreover, only after a catheterization of the ureters and the cystoscopic examination of the bladder in addition to the bimanual examination and the microscopic examination of the urine. Whether even with all these precautions the operation will be a lasting success in such a treacherous disease as tuberculosis remains to be seen. But Dr. Kelly deserves great credit for taking the initiative in this operative procedure in which he has, moreover, again demonstrated his great surgical tact and ingenuity.

Dr. Kelly's conservatism in surgery is illustrated by his treatment of extra uterine pregnancy by evacuation through vaginal incision and drainage. Thirteen cases so treated he has reported at the recent New York meeting of the American Gynecological Society. All cases recovered with the exception of one, that of a patient who was in uremic coma at the time of operation and died in that state several days later, death being in

no wise due to the operation. We glean from a condensed report of Dr. Kelly's paper in the *Med. Record*, that the cases suitable for vaginal puncture, evacuation and drainage are those of extra-uterine pregnancy with rupture in the early months, which include the vast majority of all cases, but not the recent ruptures, nor cases, whether recent or more remote, of advanced extra-uterine pregnancy. The opening is made into the sac between vagina and rectum, enlarging it in line with the axis of the pelvis by dilatation, avoiding wounding the rectum; the sac is cleaned out with the finger, and washed out with normal salt solution; this is done again as a final step before putting in a gauze drain. The advantages over laparotomy were mentioned. In one instance he had diagnosed extra-uterine pregnancy, which he treated in this manner and found dermoid cyst; in another he found simple pelvic abscess. The chief danger is from hemorrhage, but this is little likely to take place, since at this period tendency to active hemorrhage in the sac has ceased. In one of his cases, however, there was such hemorrhage as to necessitate rapid opening of the abdomen and removal of the sac. He was unable to explain why there should have been hemorrhage in this case, since rupture had taken place some time before.

The above short *résumé* of some of the recent work done by Dr. Kelly at the Johns Hopkins Hospital characterizes the skillful scientific gynecologist and surgeon and is a fair sample of the general excellence of the work done by the medical department of the Johns Hopkins University. The *Bulletin of the Johns Hopkins Hospital* which publishes most if not all the scientific work done at the Johns Hopkins Hospital, is a periodical whose original articles impress as classical productions of the highest merit. The value of the *Bulletin* is enhanced by illustrations of unusual clearness and excellence.

The Second Pan American Medical Congress.

The second meeting of the Pan-American Medical Congress, which is to take place in the City of Mexico, November 16, 17, 18 and 19, 1896, should be represented by a large contingent of American physicians. The Mexican medical profession as well as the Mexican Government are co operating to make the Congress attractive to their visitors. The delightful climate of Mexico at the time of the meeting, as well as the scientific and practical importance of such meetings, will no doubt attract many American physicians and it is to be hoped that at least most of the representative men in the medical profession of this country be represented at the Congress. The first meeting of the Congress was a most successful one and the indications are that the meeting in the City of Mexico will be equally important and memorable.

The International Executive Committee for the United States, consisting of William Pepper, ex-

Officio President, A. M. Owen, A. Van der Veer, and Charles Reed, announces that titles of papers to be read should be sent to Dr. Eduardo Liceaga, Calle de San Andres, No. 4, Ciudad de Mexico, D. F., Republica Mexicana. Those who contemplate attending should send their names and addresses at as early a date as possible to Dr. Charles A. L. Reed, St. Leger Place, Cincinnati. For special regulations for the Congress we refer our readers to the *MEDICAL REVIEW* of June 13, 1896, page 428.

"Weir's Index to the Medical Press."

The idea of publishing a monthly index of all current American medical literature is a happy and practical one. This monthly journal, the first two numbers of which we have before us, is devoted to the bibliography of current literature, will be greatly appreciated by the profession of this country. An appendix accompanies the *Index*, reviewing cases and articles of practical value to the practitioner. This latter feature of the journal increases its usefulness to the medical profession.

BOOK : REVIEWS

Books reviewed in this column may be obtained, post-paid, by addressing the publisher of this journal, and remitting the quoted price.

A Manual of Anatomy. By IRVING S. HAYNES, Ph.B., M.D., Adjunct Professor of Anatomy in the Medical Department of the New York University, etc. With 134 Half-Tone Illustrations and Diagrams. Philadelphia: W. B. Saunders. Price, \$2 50.

This is a most useful and practical manual and particularly valuable because a prominent place has been accorded to the viscera and their relation to the surface of the body. Another practical and commendable feature of the work is that the descriptions have been given in the natural order in which the anatomical structures are step by step discovered in the dissection. The author has endeavored to state the "facts in anatomy" which have been gathered from the standard text-books on this and the allied subjects. All the illustrations are original and, excepting a few cases, are from photographs by the author of his own dissections.

The book will be found a most valuable aid in the study of anatomy by practitioners and students.

Announcements.

A System of Medicine. By Many Writers. In Five Volumes, Medium 8vo. Edited by THOMAS CLIFFORD ALLBUTT, M.A., M.D., LL.D., F.R.C.P.

F.R.S., F.L.S., F.S.A., Regius Professor of Physic in the University of Cambridge, etc. Now Ready. Vol. I—"Prolegomena and Infectious Diseases." 8vo. Pages 977. Price, Cloth, \$5.00; Half Russia, \$6.00.

The great number of distinguished contributors to this work alone seem to furnish a guarantee of its excellence.

The Histopathology of the Diseases of the Skin. By Dr. P. G. UNNA. Translated from the German with the Assistance of the Author by NORMAN WALKER, M.D., F.R.C.P.Ed., Assistant Physician in Dermatology to the Royal Infirmary, Edinburgh. With Double Colored Plate Containing 19 Illustrations and 42 Additional Illustrations in the Text. Now Ready—The Authorized English Edition in one vol. royal 8vo., pp. xxviii 1208, elegantly bound in buckram, top edges gilt. Price, \$10.50. New York: Macmillan & Co. Edinburgh: Wm. F. Clay. 1896.

This unique work marks a new epoch in the study of dermatology. While several other works on the skin contain more or less reference to pathological histology, this, as a volume of Orth's System of Special Pathology, aims at arranging the diseases of the skin, like the diseases of the other organs, according to the pathological processes which are present. It does for the diseases of the skin what the great text-books of pathology have done for those of the other organs of the body, and thus very much simplifies their rational comprehension.

TRANSLATIONS.

BY EDGAR THOMPSON, M.D.

Abnormal Placental Sites.—Dr. Paul Parisot urges that the term "vicious insertion of the placenta" be substituted for "placenta previa" because it is not necessary that the placenta be attached so low as to be present in front of the fetus to cause the serious hemorrhages which accompany its attachment at any part of the inferior segment of the uterus (*Rev. Internationale*). If the placenta has its origin from any part of the uterine body which is involved in the movements of dilatation it will be loosened and hemorrhage will result. In other words it is situated on that portion of the uterus which if effaced in labor it will be spontaneously thrown off exposing the maternal sinuses.

The author says there are really two varieties of vicious placental sites; the first occurs when the attachment is too low down and near the internal cervical opening; the second variety is presented when the placenta partly or entirely covers the internal aperture. The old division into lateral, marginal, partial and central is considered too minute.

The statistics of 876,492 cases gives a proportion of one vicious insertion to 1,078 normal.

It is frequently the case that the placenta may be so long as to extend from the fundus to a point below the danger and thereby be loosened by uterine contractions, and the author states as a fact, from his own experience, and that of Barnas, Hegard and Braxton Hicks, that in all cases of hemorrhage the placenta is, in most instances, three or four times as long as broad.

The microscopical anatomy of the uterus presents facts of great interest in their relation to a too low attachment of the placenta.

(1) In the first place there is a great scarcity of transverse or circular muscular fibers in the lower segment of the uterine wall while the longitudinal bands are prominent. From this it can readily be seen that the lower segment will distend in a passive manner, and once dilated it will have no power to again contract because of the absence of circular fibers. Therefore the upper and lower part of the uterus will not move in unison and if the placenta is long enough to cover both these regions it will incur the liability of being loosened by the irregular and uneven movements of its matrix, considering the cavernous condition of the muscular wall it is only necessary that a small separation occur to cause an abundant blood flow.

(2) The spongy matrix on which the placenta rests has a structure favorable to hemorrhage. Aside from inter-muscular sinuses the blood easily escapes from the arterioles and veins whose walls are very thin at the site of placental separation and are easily lacerated.

The two symptoms of a vicious insertion of the placenta are hemorrhage, and spontaneous and primitive rupture of the membranes.

As an abnormal situation of the placenta can cause hemorrhage during pregnancy, during labor, and after delivery, it is necessary to study the symptoms during these three periods. The characteristics of the hemorrhages during the course of pregnancy is their suddenness and alarming abundance. They are very insidious and occur without any precursory symptoms. A very important and constant symptom is the sudden spontaneous cessation of the hemorrhage. This sudden start and stop character of the hemorrhage is, in fact, the general character of placental hemorrhage during pregnancy.

During labor hemorrhage will be inevitable if the placenta is entirely or partly over the internal os as in that case the fetus will push the placenta before.

It is the author's opinion that the danger is not over if delivery has been safely terminated. The peculiar histological structure of the lower portion of the uterus (previously mentioned) is very favorable to a large hemorrhage if the placenta has been there fixed. The blood vessels will be greatly multiplied and dilated and will especially bleed if the cervix has been partially paralyzed by the forced rapid dilation and delivery which is so often necessary in cases of this kind.

Hemorrhage rarely occurs before the seventh month and usually begins at some time nearly the eighth.

The author says premature rupture of the membrane,

with or without hemorrhage, is a very frequent sign of a vicious insertion of the placenta. He has found in 193 cases of premature rupture of the membranes that the site of the placenta was very low in 143 cases.

The influence of a vicious low insertion of the placenta on the fetus is bad. It seems that the placental structure is not well developed in such a position and the exchange of gases and nutrition between the fetal and maternal blood does not take place in a favorable manner. This low position also renders very forcibly more or less compression of the cord. The fetal mortality ranges, according to the authorities, from 25 to 75 per cent.

The influence on the progress of pregnancy is to hasten the expulsion of the fetus in about one half the cases.

The safety of the mother is jeopardized not only from the hemorrhage and premature delivery but also from septicemia ensuing from a dead and for a time unexpelled fetus.

ABSTRACTS

MEDICINE.

Clinical and Pathologico-Anatomical Observations Concerning Tuberculosis of the Middle and Internal Ear.—Barnick (*Arch. für Ohrenh.*) reports a few cases from the clinic of Professor Habermann, in Gratz, bearing upon this subject, and, after a historical review, makes the following observations: Of first importance in the picture is the almost or entirely painless onset of the disease. The patient's attention is attracted by a slight tinnitus, rapid loss of hearing, and then a thin, purulent discharge. The painlessness of the process is due to the cheesy destruction of numerous circumscribed nodules. The breaking down of these, if near each other, leads to a rapid destruction of the whole membrana tympani; if farther apart, to multiple perforations.

The rapid loss of hearing is caused by obstructions in the sound conducting apparatus, from the diffuse cellular infiltration of the tympanic mucosa. If death does not intervene the further progress of the case is shown in caries of the ossicles and of the tympanic walls, extension to the labyrinth, to the facial nerve, and to the brain and its membranes.

B. recognizes an acute and chronic form of which the latter is much more frequent. The acute form is infrequent and due to deposits of tubercle bacilli out of the blood stream, similar deposits taking place simultaneously in other organs with the rapid development of miliary tuberculosis. There is also an occasional hematogenous infection in the chronic form, but much oftener the bacilli reach the tympanic cavity by way of

the Eustachian tube. A primary case of tuberculosis of the temporal bone has not yet been definitely established, although its occurrence can not be doubted.—*Brooklyn Med. Jour.*

The Electrical Treatment of Tinnitus Aurium.—H. Lewis Jones, M.D. of London (*Arch. of Otolology*). In view of the difficulty, coupled with the desirability, of finding some satisfactory remedy for this trouble, it seems worth while to quote somewhat extensively from this article.

In normal individuals a sensation of sound is produced at make and break by battery current of a certain strength; and in abnormal conditions this response of the auditory nerve is much more readily evoked. The reaction formula follows that of voluntary muscle, namely, cathodal closure produces a sound more readily than anodal closure, while the opening shocks only produce a sensation of sound when the currents are of greater strength. In normal conditions a current of five milliamperes or more is needed to excite the first sensation of sound with the cathodal closure, while in some cases of tinnitus one milliampere may be sufficient.

The effect of the steadily flowing current is to maintain a sensation of sound if the cathode is applied to the ears, but the anode applied in the same way does not produce a sound, and when tinnitus is present it may be increased by the cathodal steady current, and diminished or stopped by the anodal. This is in accordance with what is known of the electrotonic effect of the poles; the state of anelectrotonus causing decreased irritability, and the state of cathelectrotonus increased irritability in the nerves near the respective poles. Inasmuch as tinnitus aurium is often associated with an increased state of irritability in the auditory nerve, it follows that a steady battery current, with the anode to the ears, may arrest it, and many brilliant cures of the symptom have been effected in this way.

J. says that "out of a very large number of patients who have been under my treatment for noises in the ears, about one-third have been freed by a course of treatment applied in the way to be described. Some of them have certainly returned after the lapse of several months for further treatment, and in them the symptom has, for the most part, again, yielded promptly to the renewal of treatment. Inasmuch as it is possible to determine at the first sitting whether the patient is likely to be relieved, one objection, viz., that of the uncertainty of the treatment, no longer holds good."

The auditory nerve can best be acted upon by a bifurcated or *divided* electrode, which can be applied to both ears at once. At a pinch a binaural stethoscope answers very well, small metal discs being substituted for the ivory ear pieces; these ends may be applied just in front of tragus, and kept in place without unnecessary force by an elastic band or spring. The parts in contact with the skin should not be of less diameter than two centimeters, a pad of moist absorbent wool

being placed between the electrode and the skin. The indifferent electrode is placed at the back of the neck; and a galvanometer and a rheostat should be included in the circuit, which enables the operator to introduce or remove a resistance of 10,000 ohms quite gradually. The current is slowly and steadily raised to five milliamperes and then to eight or ten, each ear receiving half, the patient being instructed to pay attention to the noises and to give notice of any change occurring to them in the course of the sitting, whether by closing, interrupting, or reversing, the current. If diminution of the tinnitus occurs the patient should be encouraged to continue treatment, and *vice versa*. The relief from tinnitus will at first be brief, but for a longer interval after each treatment, until it disappears altogether; and the treatments should accordingly be at first frequent, and then at longer intervals.

In progressive sclerosis of the middle ear, in which tinnitus is so common a symptom, the prospects of its cure by electricity are not very favorable.—*Brooklyn Med. Jour.*

A Delicate Test for Albumin in Urine.
—Adolf Jolles (*Hoppe-Seyler's Zeit. f. Phys. Chem.*) says a reliable albumin test available in all cases must meet the following requirements:

The reagent must be colorless; the reaction must show traces of albumin which can not be quantitatively estimated; its limits of delicacy must extend so far that, when the test results negatively, the presence of pathological traces of albumin may with certainty be excluded; and, finally, the effectiveness of the reagent must be independent of the composition of the urine.

According to the author, the following meets all these requirements:

Hydrarg. Bichlor. Corros.	-	10 00
Acid. Succinic.	-	20.00
Natr. Chlorat.	-	10.00
Aq. Destill.	-	500.00

Four to 5 c.c. of the previously filtered urine are acidulated with 1 c.c. of acetic acid (30 per cent); 4 c.c. of the above solution are now added, and the whole shaken. In a second test tube 4 to 5 c.c. of urine are likewise acidulated with 1 c.c. of acetic acid to eliminate as much as possible the disturbing influence of mucin; then, instead of the reagent, the same amount of distilled water is added, i.e., 4 c.c., and the whole shaken. By comparison of both test tubes, traces of albumin which can no longer be detected by the ferrocyanide-of-potassium test can with certainty be determined. This reaction will distinctly show albumin when present in the proportion of 1:120,000. It is therefore much more delicate than the ferrocyanide-of-potassium test. The reagent is colorless, in which respect it is superior to ferrocyanide test; it reacts the same in all urines, even in the absence of sodium chloride, and it readily shows amounts of albumin which can not be quantitatively estimated.

By addition of acetic acid, precipitates of phosphate

and ammonium compounds of mercury are prevented in urines containing carbonates. Urines containing bacteria in numbers sufficient to obscure the albumin cloud, may be tested by the contact method. Under these circumstances it is as delicate as Spiegler's test, and reacts in all instances. The test is not applicable in urines containing iodine, since a ring of iodide of mercury is formed. The latter, however, is soluble in alcohol, which is not the case with precipitates of albumin.—*Amr. Med.-Surg Bulletin*

OBSTETRICS AND GYNECOLOGY.

Tuberculosis of the Uterus or Adnexa.—Tuberculous disease of the Fallopian tubes, the uterus or the ovaries is extremely rare in children; and so rare is it that I think I could count on the fingers of one hand the number of cases I have seen diseased in this way both in the dead house and, what I have supposed to be tuberculous, in practice. The pathological specimens in the museums are few and far between. In the Guy's Hospital Museum there are but two specimens—one "2251" (Dr. Bright's, 1829) aged 11 years, who died of strumous inflammation of the brain, and lung tubercle; another still older specimen, 2251, of a child with tortuous tubes distended with cheesy matter. Chaffee published a case of a child of 4 years whose tubes were caseous, and the upper part of the uterus was caseous—she died of general tuberculosis. Silcock also recalls the case in a child of 5 years, who had tuberculous salpingitis, endometritis and a tubercular deposit in the body of the uterus, the size of a walnut—she also died of general tuberculosis. Mr. Arthur Cheate, when registrar at Evelina Hospital found in the post mortem room in a child of 21 months tubes filled with pus, the left being in communication with an abscess cavity holding one dram; this case also died of general tuberculosis.

About this time Dr. T. G. Stevens, then resident medical officer at the Evelina Hospital, also found another specimen in a child 9 years of age, who suffered from tubercular peritonitis and died of general tuberculosis. The tubes in this case had been invaded from their fimbriated extremities, and the tubercles were caseous at the outer end, but caseation ceased toward their uterine extremities. Microscopical sections showed a system of giant cells, epitheloid and lymphoid cells—a very few scattered tubercle bacilli were found. In a girl of 4 years, who succumbed to tubercular brain tumors, together with tubercular intestinal ulceration, I found both ovaries matted to their respective tubes, the extremities of which showed cavities containing caseating material. I diagnosed tuberculosis of the tubes during life.

In another girl aged 16 months there were tubercles in the uterus; elsewhere they were found in the meninges, the peritoneum, the liver, the spleen and the kidneys.

In a girl of 7 years who attended as an out patient some six or seven years ago, and who looked exceedingly ill, I found an enlargement of the uterus, the right tube being the size of a lead pencil; there was a lump, possibly tubercular, the size of a pigeon's egg, just above the top of the sacrum. Unfortunately, I soon lost sight of her, but had I possessed my present knowledge at that time I do not think I should have rested content with the mere record of the fact and the exhibition of tonics.

A girl of 7 years came to the Evelina Hospital suffering from tubercular peritonitis of the ascitic variety. I found the ovaries and uterus normal, but from the top of the latter a rounded tumor arose the thickness of the index finger, of about three inches in length, which, passing upward in the abdominal cavity, was there lost. Two years after this the tumor had shrunk to the size of a lead pencil; she was in good health, and remains so to this day; and this is ten years since her illness commenced.—*Pediatrics*.

SURGERY.

On the Indications for Mastoid Operations in Acute Purulent Otitis Media.—Knapp of New York (*Arch. of Otolaryngology*), in answer to the question, "Where and How Long is Conservative Treatment Commendable?" after giving in detail the histories of four cases draws the following conclusions therefrom:

1. There is in acute otitis media no symptom which by itself constitutes a sufficient indication for a mastoid operation. The most important symptoms are: local pain, spontaneous, and on pressure, headache, rise or fall of temperature, dizziness, nausea, vomiting, stupor, aphasia, hemianopsia, optic neuritis, paralysis, coma. Neither is there any one symptom that in any case contraindicates operation with the exception, perhaps, of deep coma.

2. The indication for operating is derived from the ensemble of the symptoms and the course of the disease. In one of his cases the course during the first three weeks afforded hope for a spontaneous recovery, then a sudden rise of temperature, swelling of the mastoid, and congestion of the optic disks appeared as danger signals which urged an immediate operation.

3. Even if the patient does well and seems cured, we should for weeks and months not lose sight of him, for acute purulent mastoiditis is a treacherous disease. The antral part may be cured, but weeks and months later foci of suppuration may develop in the basal or apical part of the mastoid and in the cranial cavity, that require immediate operation.

4. Whatever the symptoms be, we should, as a rule, begin the operation by opening the antrum and then be guided by the conditions coming into view. In one case which died without submitting to operation, the autopsy

showed that an opening of the mastoid would surely have led the operator into the cranial cavity, when by evacuation of the epidural abscess and drainage the patient's life might have been saved.—*Brooklyn Med. Journal*.

NOTES : AND : ITEMS

Population of Paris.—*Le Journal Officiel* announces that the census of March 29 records a total population of 2,511,955, a gain of 87,250 inhabitants since the last census of 1891, five years ago, an annual increase of 17,459.

The Washington State Medical Society.—At the annual meeting, held in Tacoma on May 19 and 20, Dr. R. L. Thomson, of Spokane, was elected President, and Dr. J. M. Semple, of Medical Lake, Secretary. The next meeting will be held in Spokane in May, 1897.

First Application of the Roentgen Rays in Military Surgery.—The medical service of the present Anglo-Egyptian Dongola expedition carries a number of sets of X ray paraphernalia and the enterprising surgeons propose to turn the rays on the victims and locate the Dervish bullets with ease.

Second Pan-American Medical Congress.—Professor Dr. Don Francisco Bastillos, Calle de Tacuba No. 7, Ciudad de Mexico, D. F. Republica Mexicana, has been elected Treasurer of the Second Pan-American Medical Congress to be held in the City of Mexico beginning November 16. All members residing in the United States and Canada, and others who contemplate attending, should forward the registration fee \$5.00, gold, to him at once, and notify Dr. C. A. L. Reed, Cincinnati.

Mississippi Valley Medical Association.—A meeting of the Executive Committee of the Mississippi Valley Medical Association was held at Atlanta, on May 6, and the following gentlemen were appointed to deliver addresses:

Dr. H. N. Moyer, Chicago—Address on Medicine.

Dr. Horace H. Grant, Louisville—Address on Surgery.

The indications are that the meeting to be held at St. Paul on October 20, 21, 22 and 23, will be the largest and most successful in the history of the Association. As all the railroads will offer reduced rates for the round trip, an opportunity will be given to visit St. Paul and Minnesota during the most delightful season of the year.

C. A. Wheaton, M.D., St. Paul, Minn., Chairman Committee of Arrangements.

H. O. Walker, M.D., Detroit, Mich., President.

H. W. Loeb, 3559 Olive Street, St. Louis, Secretary.

Sir William Martin Conway, President of the Society of Authors (England), has been for twenty-five years an enthusiastic mountain climber. He contributes to the July *Scribner's* a graphic account of a tour that is unique in the history of mountain-climbing. It describes "A Thousand Miles Through the Alps," and is beautifully illustrated by Edwin Lord Weeks, who is himself a famous mountain-climber.

The Woman's Medical College, of Baltimore, has lengthened its annual course to eight months (October 1 to June 2). The following appointments have been made in the Faculty: R. Tunstall Taylor, M.D., Professor of Orthopedics; Thomas C. Gilchrist, M.R.C.S., Professor of Dermatology; Henry P. Hynson, Ph.D., Professor of Pharmacy; G. Milton Linthicum, M.D., Professor of Physiology; and Kemp Battle Batchelor, M.D., Associate Professor of Obstetrics. A chair of mental diseases has been added, together with departments of bacteriology and embryology. Professor Claribel has been elected to the Board of Trustees.

Vinegar as an Antidote to Carbolic Acid.—The May number of the *Canadian Practitioner* contains an abstract of an article from the *Semaine Medicale* in which the writer states that, according to Professor Carleton, vinegar is an antidote to carbolic acid. When it is applied to the skin or to a mucous membrane which has been burned by the acid, it causes a rapid disappearance of the characteristic whiteness, as well as of the anesthesia produced by carbolic acid, and it also prevents the formation of a slough. Moreover, it neutralizes any of the acid that may have been introduced into the stomach. The first thing, therefore, to do, he says, in cases where carbolic acid has been swallowed is to make the patient drink some vinegar mixed with equal parts of water, and then to wash out the stomach.—*N. Y. Med. Jour.*

Royal Commission on Tuberculosis.—The report of the Royal Commission on Tuberculosis in England shows conclusively, says the *British Medical Journal*, that the using of milk from tuberculous udders is quite as serious as the most pessimistic had imagined; that the infective bacilli, originally in the milk, are found in butter and other milk products, and give rise to tuberculous glands and foci in meat may prove dangerous by being disseminated through the eatables by infected butchery knives being used; that the bacilli may be only partially devitalized by cooking, as shown by the frequency of tonsillar tuberculosis in pigs. The precautions indicated are to weed out all tuberculous animals from stock, dairies, and markets, and the confiscation of all tuberculous carcasses. To this end the registration of slaughter houses, cattle-sheds, and dairies should be enforced, and inspection made by skilled veterinary men. Tuberculin is recommended as a diagnostic agent.—*Diet. and Hyg. Gazette.*

The Young People's Society of Christian Endeavor will hold their Fifteenth International Convention in the City of Washington, D. C., July 8 to 13, 1896.

Delegates and others attending from the West and Southwest will find the Baltimore & Ohio Southwestern Railway, in connection with the Baltimore & Ohio Railroad, the shortest and quickest route to Washington, as well as the most desirable. The passenger equipment of this line is second to none, affording every possible convenience for comfort; two splendid through trains daily, designated as the "New York Express" and "Royal Blue Flyer," run direct to Washington. Arrangements have been perfected for cheap side trips from Washington to the many historic places in the near vicinity, namely: Mount Vernon, Harper's Ferry, the battlefields of Gettysburg, Norfolk, Hampton Roads, Fortress Monroe, and other points made prominent through their connection with the stirring events in our Nation's history.

W. P. Townsend, Traveling Passenger Agent, with headquarters at 105 N. Broadway, St. Louis, Mo., and G. B. Warfel, Assistant General Passenger Agent, Rialto Building, St. Louis, Mo., will gladly communicate with or call upon you, with full information covering rates, limits, time of trains, etc.

To Prevent Adulteration of Food and Drugs in California.—A law was passed in California in 1895 that no person shall, within that State, manufacture for sale, offer for sale or sell any drug or article of food which is adulterated. The term "drug" is to include all medicines for internal or external use, antiseptics, disinfectants and cosmetics. The term "food," as used, is to include all articles used for food or drink by man, whether simple, mixed or compound. Any article shall be deemed to be adulterated, in the case of drugs:

1. If, when sold under or by a name recognized in the United States Pharmacopeia, it differs from the standard of strength, quality or purity laid down therein.
2. If, when sold under or by a name not recognized in the United States Pharmacopeia, but which is found in some other pharmacopeia or other standard work on materia medica, it differs materially from the standard of strength, quality or purity laid down in such work.
3. If its strength, quality or purity falls below the professed standard under which it is sold.

Every person manufacturing, exposing or offering for sale, or delivering to a purchaser, any drug or article of food included in the provisions of this act, shall furnish to any person interested or demanding the same, who shall apply to him for the purpose, and shall tender him the value of the same, a sample sufficient for the analysis of any such drug or article of food which is in his possession. Whoever refuses to comply, upon demand, with this last requirement, or whoever violates any of the other provisions of this act, shall be fined not ex

ceeding \$100, nor less than \$25, or imprisoned not exceeding 100 days nor less than 30 days, or both; and, in addition, any person found guilty of manufacturing, selling or offering for sale such adulterated food or drugs, shall be adjudged to pay all the necessary costs and expenses incurred in inspecting and analyzing such adulterated articles.—*Jour. Amer. Med. Ass'n.*

Poisonous Fish.—Poisonous fish are found in large numbers and in many places, but more especially in the tropics (*Med. Rec.*). They are quite common in the Brazilian and West Indian waters, and also in the East Indian and Australian waters. Three kinds of fish belonging to the mackerel family are poisonous. One is called the jurel, and is found in the West Indies in large numbers. It can be distinguished from the common mackerel, which also abounds in the same waters, by certain peculiarities or marks. Thus, the jurel has no black spot on the gill covers; it has scales on the neck, while the harmless kind has a black spot and no scales on the neck. The poisonous kind grows large and often weighs as much as twenty pounds, but the others seldom run over two pounds. Mackerel weighing over two pounds are not allowed to be sold in the Havana markets. The chicaro is another kind of poisonous mackerel. It is also found in the West Indies, but the natives of those islands do not regard it as dangerous. The meat of the chicaro is not fit nor safe to eat at certain times of the year, especially during the spawning season. Then it becomes highly poisonous, and the people of Guadeloupe sometimes use pieces of this fish, which have been caught, to poison rats. The bonito is a kind of mackerel that is most dangerous at certain times of the year. Usually it is a very pleasant and palatable bit of food, but every once in a while people are taken with colic after eating the bonito. So it is best to let it alone. Two kinds of herring are known to be poisonous. The melletta, or tropical herring, is found all along the Atlantic coast as far north as New York. Within recent years there have been several cases in which people have died after eating this fish. The spawning season seems to be the time when the herring and other tropical fish should be let severely alone. The part which is considered most dangerous is the roe. The meletta which is found in East Indian and Australian waters is always poisonous, and it is the more dangerous because it is not easily distinguished from another kind of herring which is comparatively harmless. The poisonous kind has a black nose and a black spot on the dorsal fin, while the other has not these marks. The poisonous meletta resembles a herring, being five or six inches long, with silvery scales and a bluish green back. Some fish are poisonous in certain localities and harmless in other places; some are poisonous at certain seasons of the year and at other times wholesome; and finally, as a note of warning, we would say that visitors to tropical countries should take no risk of eating fish which are not known to be safe as well as palatable.

PUBLISHER'S DEPARTMENT.

CUTHBERT BOWEN, M.A., M.D., F.R.M.S., General Hospital, Bridgetown, Barbadoes, West Indies, written under date of May 10, 1896: "I have used Campho-Phenique both in its liquid and powdered form as a dressing for wounded surfaces of every description, and I have no hesitation in pronouncing it to be the most satisfactory antiseptic application which has come under my observation as yet. Its freedom from unpleasant odor renders its employment by the general practitioner far preferable to that of iodoform while the results obtained are as far as my experience goes quite as good as those from iodoform.

A PARAGRAPH is going the rounds of the medical journals, giving a formula for making palatable castor oil. This formula is patented as per following list of patents:

No. 410,940, dated September 10, 1889,

No. 470,715, dated March 15, 1892,

No. 470,714, dated March 15, 1892,

No. 524,513, dated August 14, 1894,

No. 524,514, dated August 14, 1894,

and if druggists are induced to prepare this article themselves, it will lead to a multitude of law suits like those instituted in the "Drive Well" case.

Some scheming lawyer would like to take up this case for one-half the profits, and we think journals should warn the druggists so that they may not be caught in a trap.

IMPERIAL GRANUM.—This is the name of a medicinal and most delicious food, especially prepared for infants, children, nursing mothers, invalids, convalescents and the aged. It is skillfully prepared, and is pronounced by the most experienced physicians in this country as being admirable for the purpose for which it is intended, and testimonials of the highest character have been received in its praise. Personal friends of the writer, who have tried the food, also speak in the most complimentary terms in its favor.—*Rock Island, Ill., Argus.*

LITMUS, as it is found in commerce, is a coloring matter prepared from various species of lichens by treating them with ammonia, potash, stale urine, chalk and indigo. It contains four distinct coloring principles, viz.: Azolitmin, Erythrolitmin, Erythrolein, Spaniolitmin. Since Spaniolitmin occurs rarely in litmus, and Erythrolein is colored reddish purple and not blue by alkalies, Azolitmin and Erythrolitmin may be considered the essential coloring matters of litmus. It will be seen why such a complex substance containing so many impurities is unfit for preparing what is known as litmus paper, which is unfit for accurate use even when freshly prepared, as it will not keep, nor will it determine the presence of acids and alkalies when they exist in small proportions, from the fact of its being impossible to prepare a solution of litmus of sufficient strength to impart to paper litmus enough to stand exposure and produce a correct impression upon acids and alkalies.

We have received from J. S. Tyree, a chemist of Washington, D. C., an ingenious instrument in the form of a Litmus Pencil made of chemically pure litmus put in a wood pencil, that you can carry it around with you. It is so sensitive that it will detect one part in a hundred thousand, while litmus paper at its best only detects one part in fourteen hundred.

The directions are to sharpen the ends as you would any pencil, mark on a strip of white paper, insert the paper in the urine. If the blue end is used and it turns red, Acid is present; if the red end is used and it turns blue, Alkali is present. The pencil will last a life time. (By mail 25 cents. —*International Journal of Surgery*, November, 1895.

MEDICAL REVIEW,

A WEEKLY JOURNAL OF MEDICINE AND SURGERY.

VOL. XXXIII.

ST. LOUIS, JUNE 27, 1896.

NO. 26.

ORIGINAL ARTICLES

Some of the Causes of Sterility in the Female.

BY A. D. WILKINSON, M.D., LINCOLN, NEB.

Read before the Lincoln Medical Society.

The great frequency of childless marriages, the importance attached to it by the afflicted parties, and the great assurance with which medical aid is sought are sufficient reasons for the study of the cause of sterility by physicians.

The scope of the subject of sterility is so large that I propose to take up only a few of the salient points for consideration. While the subject has been studied, no doubt, from the time man was created, it is probable that little advancement was made prior to the time within the memory of some of our older practitioners. Hippocrates, that original and profound observer, over twenty five hundred years ago treated the sterile woman with a skill that, though it may fall behind in the advancement of our modern science, was founded on the very principles that are acknowledged at the present day. Hence, in details of causes and methods of treatment, we may lay claim to originality, yet the grand principle of enlarging the cervix and stimulating a neurotically imperfect set of generative organs appears to have been comprehended, though perhaps crudely, by him. Even incision of the os and cervix for their enlargement was practiced two hundred years ago by that sage, yet reticent practitioner, John Hall. It remained for Sir James Y. Simpson to bring prominently before the profession the operation of incision. This was in 1843, and the profession ever since have been divided against this and other methods of treatment of sterility.

Barrenness is a condition that is found to exist in the male as well as the female and perhaps more frequently in the former. Gruenewald estimates that one woman in eighteen is sterile; Mathew Duncan thinks a much larger number are barren namely, one in ten; and the same authority as well as Dr. Gross, gives us the start

ling figure that of males in the human family, one in six is sterile. Now these figures, one-tenth in the female and one sixth in the male, would render the number of productive marriages, not over one in five or less. I think this is entirely too large a percentage for any country or race; most certainly for this country. However this may be, it is certain a large number of our males are sterile and to subject a woman to a long course of treatment for sterility without a careful examination of her husband, would be exceedingly improper and unscientific.

It is my purpose, however, to omit the consideration of sterility in males and confine myself to the subject as it exists in the female; all the while admitting, of course, that these two subjects of study are of equal importance and that any marriage that is unproductive, requires our careful scrutiny as to the condition of both parties. Now whilst I understand that the study of procreation is the most interesting division in physiology, and that the question as to the first beginning of human existence has always engrossed the greatest and most intelligent men and has always been the object of philosophical observations and research, I also know it is only through the explanation of procreation that we can gain the knowledge of sterility, yet I will not even touch on this very interesting subject for it is thoroughly studied and well understood by the profession.

Whilst it is easy to examine and study the physiological action of the male generative organs, it is not so with the female. Indeed it is almost impossible. Of all that has been written on the normal action of the female organs during and subsequent to copulation, very little is positively known. It is true we have many theories advanced; almost as many as we have writers. The action of the uterus in receiving and transmitting the spermatozoa is the least understood of all, owing to the fact that the nature of the subject is such that its study is almost or quite impossible. Difficult as the subject is, there are a few points which have been determined.

It is pretty generally conceded that the old theory so long in vogue has been exploded, that spermatozoa were endowed with some sort of intuition or instinct, that they would turn in the direction of the os uteri, wading through the acid mucus of the vagina, travel patiently upward and around the vaginal portion of the uterus, enter the uterus and proceed onward in search of the waiting ovum. The greatest advocate of this doctrine

was Dr. W. C. Roberts, of New York, whose language is so strong that I beg to quote a few items. He says: "A deposit of semen upon the vulva is sufficient. Their volition (the zoosperms) is seemingly directed by instinct towards, and in spite of all obstacles, the ovum, which they are to impregnate." Since this was written, numerous contributions on the subject have been given of physiological doctrine at variance with such views which it will be well to examine briefly, for it is readily conceded that a correct physiology often and generally leads to corrections in practice. For our present purpose we shall examine only two or three points, because they are important and comparatively recent, but I think fairly established, because of the endorsement of some of our leading gynecologists.

About the year 1859, a German by the name of Fichstedt announced his belief that the uterus during copulation was not the passive organ it had almost universally been taken to be; that it had an action of such a nature that it was capable of sucking in or aspirating the semen in the very brief period occupied in the act of coition. His paper excited the attention of others, prominent among whom was Wernich, also a German, who published a paper in 1872, entitled, "The Erectile Properties of the Lower Segment of the Uterus and Its Significance;" that the body of this organ was not composed of true erectile tissue as had been previously advocated by Rouget; that this erectile power only resided in the vaginal portion of the neck; and that this erection was the cause of the aspiratory movement. He also followed Hohl, that during congress the cervical portion elongates materially and that the whole organ sinks far down in the pelvis as if to meet the glands of the male. In the same year, only several months later than the one of Wernich to which we have just alluded, a rather remarkable case was reported in the *St. Louis Medical and Surgical Reporter* and later elaborated on in the *American Journal of Obstetrics* for November, 1894, by Dr. Joseph R. Beck, of Ft. Wayne, Indiana, entitled, "How do the Spermatozoa Enter the Uterus?" Dr. Beck did not know of the existence of Dr. Wernich's paper and was so far, original. His case clearly demonstrated the aspiratory action of the uterus. The case was an excitable woman whose organs were very easily excited by an ordinary vaginal examination. After learning this, he wisely concluded to take advantage of it to note whatever changes might take place during the height of the venereal excitement. What followed in his examinations, I beg to give in his own words: "The os and cervix uteri had been about as firm as usual, moderately hard and generally speaking, in a natural and normal condition, with the external os closed to such an extent as to admit of the uterine probe with difficulty; but the instant that the height of the excitement was at hand, the os opened itself to the extent of fully an inch, as nearly as my eye can judge, made five or six successive gasps, as it were, drawing the external os into the cervix each time powerfully, and it seemed to me with a regular rhythmical action, at

the same time losing its former density and hardness and becoming quite soft to the touch. Upon the cessation of the action as related, the os suddenly closed, the cervix again hardened itself and the intense congestion was dissipated." Dr. Paul F. Munde, in 1883, in his journal announced as follows: "We ourselves have seen the gushing, almost in jets of clear viscid mucus, from the external os during evident sexual excitement produced by a rather long digital and specular examination in an erotic woman." In 1884, a Dr. Peters, in a very fine paper indeed, offers his theory of the manner in which this aspiratory action is accomplished. The influx of blood in the process of erection (whether of the cervix alone or of it and the body together) probably of the neck alone as the anatomy as given by Henle and others would indicate, not only elongates and enlarges the neck and at the same time slightly everting or in other words enlarging the os; but it also, as is readily conceived, greatly narrows the cervix and for the time being almost obliterates it, forcing out by an ejaculating process any mucus it may contain. Then as it returns to its normal condition it draws in whatever is within its reach, mucus and semen alike. Therefore if the semen be discharged where it cannot be reached in this uterine reaction it is lost. This aspiration lasts I am confident, for a minute or two after the orgasm has passed. No inherent action of the spermatozoa can carry them to the body of the uterus." He opposes Dr. Beck's theory of spasmodic action of the cervix by asserting that its action is comparatively slow and gradual. Many other theories and observations we could present in this particular but we must go on to the consideration of some of the causes of sterility in the female. At the outset I shall not cite cases where from absence of uterus, or ovaries, or vagina, conception is impossible. We have however several varieties of sterility: We have absolute and relative. A sterility where no conception takes place whatsoever, as well as those where the impregnated ovum disappears in the tubes or uterus without leading to a recognized abortion. Then we have the sort where there is a failure to produce a viable child though there is evidence of conception. In either event there is no addition to the population. The relative or acquired sterility is where a woman produces one or more children but in number not according to her conditions of age and length of married years. According to an analysis of twenty-five thousand cases, it is justifiable to hold that a married woman, who, during childbearing life, does not have a child every eighteen months, is exhibiting relative sterility. Also a woman may be regarded as relatively sterile who married within the age of nubility, (twenty to twenty five) ceases to have children within fifteen years from the birth of her first child. The question might be raised, how many children does a woman bear? From various sources the opinion is justified that a healthy woman, under favorable circumstances for natural procreation, that is to say living in wedlock, should have a family of ten.

Constitutional conditions, such as cold and heat, over and under feeding, young and old age, degradation of general health, confinement and interbreeding are of great importance as causes of sterility. So similar are the effects of such causes on animals, plants and man that much may be gleaned from the first two of value in reasoning about sterility in the latter. A plant transferred from the garden or the hot house to the close atmosphere of the house, will soon suffer in general health, and may become sterile or nearly so as the result. Over stimulation by manure is a well recognized cause of sterility in plants which may show itself in paucity of flowers, or in abortive flowers. The influence of age on the bearing of plants, is apparent—the young tree bearing little fruit; the old tree, ill-developed fruit, or none. Similarly interbreeding of plants leads to weakness, malformation, hybrids sterility, and tropical plants imported to colder climates do not thrive. As for animals, if the female of any kind be made to breed when very young, her own growth is apt to be stunted and her offspring not of the best quality. The production of obesity in the female is likewise hostile to her fertility. The evil effects of interbreeding are strongly marked in animals. Sexual desire and sexual pleasure are usually combined but not invariably so. A woman may have desire, and yet not derive any pleasure from copulation and the reverse holds true. It is very certain that both desire and pleasure are very important pre disposing causes of fertility. Excess of desire is probably unfavorable, since it leads to excessive indulgence which of itself is a cause of sterility, especially in the young. On the other hand, entire absence of desire and pleasure or one of them or the presence of sexual antipathy and dyspareunia are not necessarily causes of sterility. The following case will illustrate. A robust healthy woman married at eighteen; has three children and four miscarriages before she has passed twenty-three years of age. Up to the birth of her last child and for five years subsequently she has neither desire nor pleasure. Five years after her last pregnancy, she suddenly has intense desire and pleasure, but remains sterile for four years. Here then fertility is present in the absence of desire and pleasure, sterility is present in the presence of desire and pleasure.

Mechanical obstructions such as stenosis, flexions and versions as well as a conical cervix are well known causes of sterility. Myomata sarcomata and carcinomata if extensive enough, cause sterility. Abnormalities of involution often constitute a barrier to conception. Subinvolution of the uterus is often accompanied with an inflammatory state, completely preventing the occurrence of pregnancy. Malformations and inflammations are amongst the frequent causes.

The morbid processes endometritis, metritis, including cervicitis, parametritis or parimetritis, we often have two or more of these conditions present which render the cure more tedious. We may also have extensive perineal lacerations as well as a lacerated cervix suffi-

ent to cause sterility. Specific troubles come in for their share as well.

In conclusion let me say that there is no condition in which the prognosis is more uncertain. After the physician has discovered as many obstacles to conception as he can find, he must set about removing them. In no department of gynecology is more persistence demanded, but I must not touch on the matter of treatment in this paper.

Hemorrhoids as a Source of Reflex Phenomena.

BY J. E. PENNINGTON, M.D., CHICAGO,

Professor of Diseases of the Rectum, Illinois Medical College; Rectal Surgeon, Illinois Hospital; Member of the American Medical Association, Illinois State, Tri-State Medical Society, Chicago Medical Society, etc.

The subject of the reflexes is one of the most important and perplexing questions with which the medical mind has to contend. A want of a better knowledge of which accounts for many of our errors in diagnosis, and as our knowledge of anatomy, physiology and pathology—especially of the sympathetic system of nerves—increases, in the same ratio will many neuroses, mental disturbances and obscure diseases disappear from our nosology.

Most of our knowledge of reflex phenomena has been obtained by observing the neuroses caused by reflexes from the head and its vicinity, as it is in this region that we are able to get the clearest and most decisive results in regard to the action of the sympathetic; and by generalization from this section we get much of our knowledge of its action in other parts of the body, as here the anatomy of the nerve is much simpler than in the thoracic or pelvic region where it is almost impossible to tell from how many different sources a given plexus receives its fibers.

The importance of an organ or part as a source of reflex phenomena, depends: (1) upon its nerve and blood supply; (2) its relative position and function; (3) its susceptibility to and frequency with which it is attacked by disease.

In applying this rule to the rectum it will be necessary to recall, at least, some of its anatomical relations and in so doing you will remember: (1) That its nerve supply is very great—being from two sources—the sympathetic and cerebro-spinal system. Through the former it receives branches from both the hypogastric and inferior mesenteric plexus, and from the sacral plexus, fourth and posterior sacral nerves of the latter, and it is also important to remember that this is the only part of the alimentary canal receiving branches direct from the cerebro-spinal system and that the nerve supply of the external sphincter is greater than that of any other muscle in the body. The blood supply is also very great—being from three different sources—

superior, middle and inferior hemorrhoidal arteries and is returned by the corresponding valveless veins. Through this rich and profuse nerve and blood supply the rectum and anus are profoundly and intimately connected with all the pelvic and abdominal viscera and external organs of generation as well as many distant organs and parts. (2) It can not be gainsaid that it has to do with one of the most important functions of the body. (3) Gant and Allingham tell us that there are no diseases more prevalent among civilized communities than those occurring around the rectum and anus.

Hence, it is easy to discern, from its rich nerve and blood supply, important relative position and function and the frequency with which it is attacked by disease, that it becomes second to no other organ or part as a source of reflex phenomena.

It being admitted that the hemorrhoidal affection is one of the most common of rectal diseases, I will briefly append a couple of cases to illustrate the great importance of this malady in the reflexes

CASE 1.—F. S., aged 20. Sought treatment at the dispensary of the Illinois Medical College for a genito urinary trouble for which his family physician had been treating him for several weeks with no improvement.

A thorough examination revealed no venereal disease at all. He was then referred to the rectal clinic.

While he gave no symptoms or history pointing directly to a rectal affection, yet knowing the power of this organ as a source of reflexes and its intimate connection with the genito-urinary organs. I felt confident from his symptoms that some trouble was brewing therein. He very reluctantly permitted me to make a digital examination as he was positive in his own mind that he had absolutely nothing the matter with his rectum. On manipulating my finger in his bowel he gave a sudden shriek, grasped his penis, at the same time exclaiming that it gave him great pain in his bladder and penis. He had three internal hemorrhoids the size of a partridge egg which I removed at a subsequent clinic whereupon his venereal (?) trouble vanished.

CASE 2.—Mrs. S., aged 32. Consulted me April last, for a rectal affection. She also gave a history of dysmenorrhea, pain in her ovaries, back and limbs, dyspepsia, flatulence, kidney and bladder trouble. Her principal complaint, however was internal hemorrhoids, and I promised her that as soon as she recovered from the rectal operation I would refer her to a gynecologist for her ovarian trouble. She came to see me a few weeks after leaving my sanitarium, saying that her other affections had been relieved to such a degree by the removal of the hemorrhoids that she did not think it necessary to have anything further done.

These cases serve to show what powerful reflexes may occur from hemorrhoids and that in all obscure pelvic, abdominal, or genito urinary troubles it is all important to make a thorough examination of the rectum.

Memorial Building.]

Iron, in Organic Combination, in the Treatment of Anemia.

BY EDGAR THOMPSON, M D,

Lecturer on Physical Diagnosis and Clinical Medicine at Beaumont Hospital Medical College, St. Louis, Mo.

The great anemia and malnutrition which frequently develops after confinement are most difficult to treat with much satisfaction to the attendant or benefit to the patient. The anemia may be due to influences which were present before the confinement, but were rendered inoperative on account of the great natural resistance presented by the organism against the invasion and extension of microbic infection. It is frequently the case that a local tubercular growth is in the lung, or that there may be a malarial infection, both of which may be held in abeyance as long as the cellular elements of the organism are normal; but when the vitality is temporarily depressed, and the receptivity of the body for infections increased, an opportunity is afforded for a serious and, perhaps, fatal extension of the hitherto latent affection.

In a large number of cases a careful examination will reveal no clear or sufficient cause of the progressive waning of vitality, and it may be styled idiopathic and be attributed to a failure to properly convalesce from the great physical relaxation and functional disturbances of the labor.

But however various the assumption may be as to the cause, the real pathology and the most evident and serious symptom is a diminution in the normal amount of iron in the blood and other tissues. This can be demonstrated by a count of the blood corpuscles and estimation of the hemoglobin.

The following case, presenting all the symptoms of anemia without any attributable cause other than a general functional perversion induced by the shock of child birth, is taken from my note book. My apology for reporting the case is based on the fact that the treatment was so unsuccessful—the general condition remaining the same after all appropriate remedies had been applied, until I administered ferratin as a clinical experiment. The results from the use of this preparation were so surprisingly rapid and happy that I deem it a sufficient reason to present the history of the case.

Mrs. M. was delivered December 3, 1895, after a tedious labor, of her first child. She was 23 years old, and previous health had been fair. Convalescence from the confinement seemed to be progressive, and patient left her bed in two weeks; soon afterwards she began to complain of a distressing languor and an inability for any display of exertion. These subjective symptoms increased in intensity, and the patient began to show signs of anemia; the skin became colorless; the lips pale; weight was lost and the patient seemed rapidly approaching invalidism; the mammary secretion was scant from the first, and ceased entirely in three weeks;

there was constipation and almost complete anorexia.

A systematic examination of the blood was instituted; and the blood corpuscles were counted with the Thoma apparatus, and the hemoglobin was estimated in a hemometer. These examinations were conducted weekly; the figures of the last few weeks are as follows:

DATE.	NUMBER OF RED CORPUSCLES IN 1 CCM. OF BLOOD.	PERCENTAGE OF HEMOGLOBIN.
February 18. .	2,400,000	42
February 24. .	2,300,000	42
March 2. . .	2,400,000	41
March 9. . .	2,100,000	42
March 16. . .	2,100,000	40
March 23. . .	2,300,000	41
March 30. . .	2,300,000	40
April 6. . .	2,500,000	42
April 13. . .	2,500,000	44
April 20. . .	2,800,000	50
April 27. . .	3,100,000	62

The treatment with ferratin was begun March 31, 1896. Eight grains were given three times daily, and it will be noticed that the hemoglobin, which is the iron-carrying compound, began to augment within a week, and the increase thereafter was progressive; the corpuscles present a corresponding increase. The general condition of the patient improved greatly; her spirits, which had been much depressed and vacillating became more serene, and when last seen she had determined to resume the use of her bicycle, which pleasure she had so long foregone. Her appetite increased, and she gradually gained in weight and color.

It was evident from the start that the amount of iron in the blood was far below that needed for good nutrition, and the treatment consisted in the exhibition of iron. But a serious difficulty was experienced from the use of iron salts in that the local influence of the iron on the alimentary tract was so unpleasant that the administration was continued with difficulty. The gastric irritability and constipation were increased; the patient's gastric digestion was feeble, resembling a condition of atony. Pyrosis was severe and only the most unirritating food could be borne with comfort. An experiment with the "test breakfast" showed that the digestive activity of the stomach was below normal.

Iron is a very essential constituent of the peptic cells of the gastric mucous membrane, and McCallum has found that a large amount of "masked" iron is firmly united in an organic compound within the cytoplasm, and chromatin of the cells and the amount of this organically combined iron seems to have a close relation to the state of digestion. In these cells the iron is

probably united with nuclein or nucleic acid. This brings about a peculiar condition—the anemia primarily withdraws iron from the peptic cells and interferes with proper digestion; this faulty digestion produces a secondary malnutrition; the two (the anemia inhibiting digestion and the limited secretion creating a condition of partial starvation) interacting hastens the progress of the affection. The necessity of iron in the stomach is important and the highest indication is fulfilled if, in conditions of anemia, iron, which is already organically combined, and which can be directly absorbed, be given.

This patient was kept for several months, with slight temporary variation, on the tincture of the chloride of iron. It is evident that all the mineral preparations of iron are changed into the chloride in the stomach through the action of HCl, and it is more rational to give the chloride at once and prevent the extra labor and destruction of HCl coincident to the chemical transformation of the other salts into a chloride. A two months' trial of the chloride had no effect on the patient. Her condition became more and more serious, and at the end of March she presented a picture of profound anemia. She became exhausted at the least exertion. At irregular intervals there was slight edema of the feet. Auscultation revealed great irregularity in the action of the heart and to and fro murmurs were heard over the veins of the neck, with a systolic bruit at the pulmonary valves. That there was no assimilation of iron was shown by the blood examinations, and the cause of this failure is found in the chemical reaction which so often takes place, with mineral salts of iron, in the intestines. The intestinal digestion of the patient was very weak; the secretions were very limited and there was more or less atony of the walls, causing great constipation. All these factors caused a delay in the passage of the food stuffs through the intestines, and the chyme underwent fermentation and decay with the liberation of a large amount of H_2S gas from the albuminoids. This sulphur gas combines, with great avidity, with any metallic compound which may be near, forming an insoluble sulphide.

An examination of the patient's feces showed that the iron which had been administered was disposed of in the above described manner. The feces were black in color and hard in consistency from the amount of iron sulphide they contained and from the constipation caused thereby.

It must be admitted that the inorganic iron compounds are not, as a rule, absorbed on account of their affinity for sulphur, which is always present and when a good clinical result is observed it is due to the fact that the iron salts combined with the H_2S and thus removed the latter and left the organic iron compounds in the foods free to be absorbed without any danger of being at once precipitated by the H_2S . The iron salts were sacrificed, as it were, that the iron in the nuclein and cytoplasm of the organic cells might be absorbed and used. It has been found that the iron in the cells

is much more firmly combined than ordinary salts of iron, and if the two are present with H_2S the latter will select the inorganic salts.

Porter and others have found that the daily amount of iron leaving the body is very small—something like one or two grains, hence if all the iron was absorbed it would only be necessary to introduce one or two grains daily to maintain a proper balance.

To insure the absorption of iron it must be in the peculiar organic compound as it is found in the cells and of this class ferratin has, by its remarkably and uniformly good clinical results, taken front rank. I have other cases under treatment, in all of which the prospects are most pleasing, but this case being so much improved is reported. When the use of ferratin was begun the difficulties of this case were very momentous. The body was emaciated; spirits depressed; appetite nil; constipation was extremely persistent. A prescription was extemporised containing eight grains of ferratin, one-twentieth grain each of aloin, nux vomica and podophyllin, to be given t.i.d. It was thought that this mixture approached the indications, and the result as above related far exceeded all expectations. At the end of four weeks the patient withdrew from treatment with the satisfaction that she was on the way to perfect health once more.

[Jefferson Avenue and Pine Street.]

Soft Rubber Sound an Aid to Gastric Diagnosis.—In 1875 Leube advised the use of a stiff sound as a means of diagnosis of the position of the greater curvature of the stomach. The bulbous extremity of such a sound passed into the stomach could be palpated, and in this way the position of the lowest point of the stomach determined. Leube himself, however, gave this up as a means of diagnosis, finding that where aught could be learned by this method other methods sufficed, and where it might be of value (as, for instance, in patients with thick abdominal walls) it frequently failed. Boas (*Centblatt. f. Innere Medicin*, No. 6, 1896), in making investigations of the stomach by means of a tube with a revolving point, quite similar to the gyromele of Dr. Turck, found that he could frequently palpate the soft rubber sound even when it was quiet. He examined thirty cases of different kinds, and found that in twenty five he could palpate the sound with the greatest distinctness as it lay against the greater curvature of the stomach. He therefore believes the soft rubber sound is a valuable aid to the diagnosis of gastric dilatation and gastroptosis. The examination is best made with the stomach empty or only partially filled, and with the patient recumbent. Filling the stomach with water, or having the patient stand erect, causes the greater curvature to descend several centimeters. Incidentally the author takes occasion to state that the method of gastroduaphany is of doubtful value. He also believes in the possibility of palpating and that has been introduced into the rectum and

-Medicine.

MEDICAL REVIEW.

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PUBLISHED UNDER THE AUSPICES OF THE
MEDICAL REVIEW ASSOCIATION

BY O. H. DREYER.

YEARLY SUBSCRIPTION, \$3.50. SINGLE COPIES, 10 Cents.

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Entered at the St. Louis Postoffice as Second-Class Matter.

The Free Clinic Nuisance.

Medical journals continue in chastizing the many nuisances due to the indiscriminate establishment of free clinics. It is claimed that such clinics frequently seriously interfere with the prosperity of physicians who practice in their neighborhoods, and that some physicians have lost one-third to one-half of their practice by the establishment of free clinics in their immediate vicinity.

The right, nay duty, of the medical press to enter into a discussion of all conditions connected with the welfare of the medical profession, can not be questioned and the growing tendency of establishing free clinics where patients, who would be able to pay their physicians a modest fee, are treated indiscriminately with those who are not able to pay such a fee, is a subject which deserves thorough discussion on the part of all well meaning members of the medical profession, and we are pleased to note the great interest displayed by some of our most esteemed contemporaries.

It is not, as everybody knows, the honest free clinic whose existence is detrimental to those engaged in private practice; it is not the clinic where the really poor are treated to which physicians practicing in the neighborhood object. Nor is it, in this city, any one of the clinics established by the Board of Health that seems to interfere perceptibly with the interests of physicians who are engaged in private practice. It is only the clinic where all who present themselves for free treatment are accommodated and where apparently no efforts are made to guard the interest of colleagues by refusing to treat those who would be able to pay a moderate fee. An effective control of this kind is, of course, not an easy matter. But if the state of affairs with regard to the free clinic nuisance is as discouraging as it appears from the perusal of the subject in some of the best medical journals of the country as well as from the personal information obtained from physicians, some reform should be instituted. It seems that the united medical profession could cause the enactment of laws by which the police departments would be required to furnish a list of all citizens who are too poor to pay a modest medical fee. These lists could be made use of for reference at the various free dispensaries and clinics whereby every pertinent objection to their existence might be removed.

Free clinics are a necessity. There must be clinical material for the instruction of students, but we do not see the necessity of instructing students at the expense of their practicing predecessors. The matter should and can be regulated in all cities. In this city much good could be done by allowing medical colleges to utilize the clinical material of the various city dispensaries. At present all the valuable clinical material of the central city dispensary as well as the many branch dispensaries is not made use of for teaching purposes. We hope that Health Commissioner Starkloff, who has shown so much good judgment as an health-officer, will seriously consider this matter and we believe that he may be confident of the unanimous applause of the medical profession.

Nervousness in Tornado Sufferers.

Dr. W. B. Outten, editor of the *Railway Surgeon*, has sent a request to various physicians of this city to relate their experience as to nervous symptoms manifested by their patients in consequence of experiences in the St. Louis tornado. We have no doubt that Dr. Outten will be able to gather a large amount of material having a bearing upon this subject. Restlessness and fear of people upon the approach of a thunderstorm or a dark cloud, nervous symptoms which in many cases take on proportions that can not be explained excepting by a pathological condition of the nervous system, have been noticed by many physicians. A number of lethal issues have been observed among young as well as old, healthy and sick individuals, where death was attributed to fear during and in consequence of the tornado.

Several suicides were reported which to an extent were undoubtedly due to an intense disturbance of the *psyche* of the unfortunate individuals by the storm and its direct destructive consequences. The impression upon the nervous system of susceptible individuals will probably not be entirely wiped out for months or years and the study of the nervous phenomena resulting therefrom will be interesting, profitable and instructive. Nor will the subject be exhausted by the resulting affections of the nervous system alone, but the direct effect of the storm upon the course of other ailments and diseases will be equally interesting to note.

Dr. Outten, who has made the *Railway Surgeon* an interesting journal, deserves great credit for his enterprise in trying to gather whatever casuistic material exhibiting nervous phenomena due to the disastrous storm can be contributed by physicians who have treated tornado sufferers.

The New City Hospital.

No one familiar with the necessities of this city as regards the hospital which must be erected in the near future, can shut his eyes to the fact that many questions must be solved before a final decision can be reached by those who will be charged with the duty of locating, planning and supervising the construction of the new buildings.

FIRST: AS TO ITS LOCATION.—From a theoretical point of view, an ideal hospital located in the most salubrious section of the city, on high ground in the center of a large park, and removed from the noise and turmoil of a great city at once suggests itself. For purposes of discussion it might be well to consider what possibly could be done in this direction. Confronted, however, with the conditions as we find them, the presumption is justifiable that the new building will be erected on the same plat of ground where the ruins now are an interesting attraction to our citizens as well as to our visitors. Not that this is the ideal location, but it is the best site taking all things into consideration for the location of the hospital, and the area which is at the city's disposal is sufficiently large to accommodate as many patients as should be placed under one management.

The time will come when it will be necessary to erect in the northern portion of the city a second hospital, and but for the fact that the finances of our city do not permit of it, we would advocate now the erection of two hospitals—the one on the present site, the other upon some properly located place in the northern end of the city. It can not be denied that it is cruel and inhuman almost to transport the injured poor from the extreme northern portion a distance of five or six miles to the city hospital. Or to convey during inclement weather those suffering from internal diseases for the same distance from their homes to the city's institution.

Nor must it be forgotten that the City Hospital should be accessible to the friends and relatives of the

unfortunates who may seek relief there, with the least possible expenditure of time and money.

It might also be suggested in favor of retaining the present location that it is located in a healthy portion of the city, with good natural drainage and surrounded by streets and alleys properly made.

SECOND: THE CONSTRUCTION OF THE HOSPITAL.—Simplicity of construction with a view to the possibility of keeping the interior of the buildings surgically clean and the exterior of pleasing appearance without costly ornamentation should be the underlying principle in the construction of the new buildings. If it is decided to construct them on the modified pavilion plan, and this would seem the more practical considering the space to be covered, then two-story buildings, each floor containing two wards, suggests itself. At the ends of each ward should be located the bath rooms, and water closets, the diet kitchens and the dining rooms. Covered passage ways ought to unite the buildings with each other.

The method of distributing food to the pavilions from a central kitchen will be a question which will tax the ingenuity of the architect. The subterranean passage way might be made to answer a valuable purpose.

The disgraceful scenes which were enacted in the old hospital where large numbers of patients were crowded together into small dining rooms and corridors will, it is hoped, not be witnessed in the new buildings. The unfortunate is not necessarily a vulgar man or woman, and it can not but be calculated to grate harshly upon the sensibilities of persons of refinement and culture whom circumstances may have driven to the city's charity to be fed in the fashion in vogue under the old regime.

TRANSLATIONS.

BY EDGAR THOMPSON, M.D.

Etiology and Pathology of Obesity.—Obesity is more frequent in the female than the male in the proportion of 2 to 1; this disposition of women to obesity is due to their sedentary habits, the influence of pregnancy and the menopause (Dr. H. Richardiers in *L'Union Med.*). As a general rule, obesity is more frequent in cold climates than in hot. The inhabitants of the extreme north are very fat from the great absorption of fatty foods, oils, etc. This superabundance of food with the increasing use of alcohol and a more indoor life is favorable to the production of fat.

The inhabitants of the torrid zone who live on a scant fruit diet and exercise constantly in the open air rarely fatten.

All authorities agree that alimentation plays a strong obesity, but the opinions as to the particular are not unanimous.

In the normal nutrition the fats introduced in the alimentary canal are broken up into glycerine and fatty acids, and the greater part is oxydized in the organism—body heat resulting from the combustion. The small amount which escapes immediate combustion accumulates in the various tissues and constitutes a reserve which can be utilized when the supply of fat, from without, fails. If the amount of foods are superabundant, or if their oxydation is incomplete, the equilibrium will be lost, and the fat will accumulate in the cellular tissues, causing obesity.

The inordinate use of albuminoids can contribute to obesity. Lean meat gluttons get fat. In the physiology of nutrition the albuminoids can be transformed into derivatives identical with fats and hydrocarbons. These fatty bodies arise when more albuminoids are presented than can be completely oxydized into urea, etc.; the surplus is incompletely oxydized into the fats.

Fat can also be formed from hydrocarbons (sugars). One part is oxydized in the organism, while the rest is transformed into fat (Liebig). Selon Beauniz explains the formation of fat in connection with hydrocarbons in a different way. He suggests that the hydrocarbons are not changed into fat at all, but being more easily oxydized than the fat in foods, they will be taken up for combustion in preference to the latter, and all of the injected fat will, therefore, accumulate unchanged, producing obesity.

The author concludes that all kinds of foods can produce fat. Beverages can influence the deposition of fat. It is generally admitted that water, taken in large amounts, favors corpulancy. Dancel's treatment of obesity is to limit the water drank by the patient. The alcoholic obese blote is proverbial. Alcohol causes the accumulation of fat by limiting its oxydation. The alcohol acts as an easily combustible food and displaces the fatty foods by reason of its greater affinity for oxygen. This habit can be a cause of obesity.

Lack of muscular exercise hinders the oxydation of the fats as well as the other nutritive metamorphoses. Sedentary habits have a similar effect. In the female, obesity has a close connection with certain phases of genital life. Some women fatten immediately after marriage; others become obese after pregnancy; others still, after the menopause.

Frequently obesity develops from an accidental cause, change from an active to a sedentary life promotes it; sometimes it occurs after an acute febrile disease, as pneumonia and typhoid fever. All those nutritive changes which hinder the oxydation of fats promotes obesity.

Diagnosis and Treatment of Gonorrheal Metritis.—Gonorrheal infection frequently localizes in the cervix, and it has certain specific features which differentiate it from other forms of metritis (Dr. Appert, *La Semaine Gyn.*; *Rev. Inter.*). By touch the neck is, in this variety of cervical inflammation, very little changed; the lips are smooth, the external orifice is small and firm, and the finger can not be pushed into

the canal as it can easily be done in cases of puerperal metritis. An examination with the speculum confirms all the opinions derived from touch.

As the infection is always localized in the cervix, treatment must be such as to limit its extension. Intra uterine medication must not be attempted, for it is liable to promote an extension of the inflammation. All applications must be limited to the cervix and never pass the internal opening of the canal. While the inflammation is naturally limited to the cervix, a small traumatism will cause it to spread, and in many instances become a fatal metritis and peritonitis. Of all the interventions, the most dangerous is curetting, an operation which opens the largest avenues of absorption and favors the penetration of the gonococcus. A curetting, in acute gonorrheal inflammation, is always followed, the next day, by an elevation of temperature with an increase of local pain. Curetting certainly favors the complications which sometimes arise. The open venous sinuses allow the metastatic transmission of the gonococcus, resulting in arthritis.

The author cites a case of a woman in whom a curettement provoked an acute inflammation of the knee joint, and an amputation of the neck of the uterus, two months afterwards, caused a re-establishment of the arthritis.

The most rational treatment, in the mind of the author, is as follows:

1. In acute gonorrhea, limited to the neck, treatment must be begun by confining the patient in bed. At first local applications are limited to weak vaginal injections of potassium permanganate (1 to 2000), repeated twice daily. When the acute stage is passed, and if the vaginitis is inconsiderable, the mucous membrane can be touched with a solution of methyl blue, or the canal can be irrigated with a solution of potassium permanganate under very weak pressure, so as not to dilate and force the internal os. If the uterine cavity is invaded, the symptoms will be serious. Absolute rest in bed must be imposed; ice on abdominal wall. The uterus must not be disturbed, not even examined.

2. In the chronic stage, recourse may be had to the vaginal tampon, and the intra cervical application of solutions of potassium permanganate, or silver nitrate. If the uterine cavity is involved, gauze soaked in the various antiseptics, and astringents can be placed in the uterus after the cervix has been thoroughly dilated.

Treatment of Pertussis.—Whooping cough is probably due to a specific micro organism which engenders an inflammation of the upper respiratory tract (*L'Union Med.*). Medication must be mainly symptomatic and addressed to the two following conditions;

1. To prevent a secondary infection of the bronchial tubes.

2. To diminish the intensity and number of spasmodic paroxysms.

The bronchial infection may be through contagion or auto-infection. All the nerve sedatives have been ex-

alted in the treatment. Marfan gives antipyrin followed with belladonna. Tussol (amygdalate of antipyrin), antispasmin and bromoform, have all been extensively used. Steep has used tussol in 70 cases with good results. The broncho pulmonary complications seemed to be less frequent.

Bromoform gives excellent results; it is best given in an emulsion—four drops four times daily is a suitable dose for an infant of one year.

Raubitschen has used local applications of corrosive sublimate with seeming success. He touches, with a tampon soaked in a 1 to 1000 solution, the posterior wall of the throat, the tongue, the epiglottis and the contiguous mucous membranes. The applications to tonsils must be thorough. If the case is grave, the application must be made every twenty four hours; if not so severe, every two days will suffice.

The hypodermic use of guaiacol and eucalyptol has been recommended; two cc. of a 10% solution in sterilized oil is the proper dose. In a large proportion of cases the symptoms have ameliorated very rapidly.

Pestaloza and others have used vaccination in the treatment of pertussis. According to Bolognini, if the vaccination is practiced early enough in the disease, the number and intensity of the paroxysms is much less than ordinary, and recovery is hastened.

Kelaiditdes inoculated a dog with the bronchial secretions of a patient with whooping cough, and after the animal had reacted and recovered, he obtained a serum which was preventive and curative. The dose of the serum varied from 5 to 20 cc., according to age.

Marfan advises the following bromoform combination:

R _x	Bromoform,	-	-	-	gtt. xlviij.
	Oil of sweet almond,	-	-	-	gtt. xx.
	Gum tragacanth,	-	-	-	℥j.
	Gum arabic,	-	-	-	℥ij.
	Cherry laurel water,	-	-	-	3j.
	Water, q.s. ad,	-	-	-	℥j.

Make emulsion. The dose is given above, and the amount of bromoform can be varied to suit.

ABSTRACTS

MEDICINE.

The Influence of Intercurrent Diseases on the Mental Condition of the Insane.—

In the May number of the *Archiv. de Neurol. M.* Rene Charon remarks that the salutary influence of serious intercurrent disease upon the mental condition of the insane has been recognized for a long time, and if it can be no longer affirmed, he says, that a mental affection can not be really cured, yet physicians frequently observe a more or less considerable amelioration of the

psychical trouble during the course of inflammatory manifestations of microbial origin.

M. Charon has collected notes for four years relative to the diseases incident to a population averaging about 1,250 insane persons, and they indicate favorable modifications of the mental condition during the course of the following diseases: Erysipelas of the face, pneumonia, pulmonary tuberculosis, anthrax, phlegmon, typhoid fever, small-pox, and adenitis with suppuration. Of the 153 patients who suffered from these diseases, 98 had acute or chronic mania or dementia; of this number, 61 showed an amelioration of the mental condition. This amelioration, says the author, occurred in 62% of the insane, but in the majority of cases it was slight and of short duration.

M. Charon gives an account of two patients who were attacked with serious typhoid fever and adenitis with profuse suppuration. One patient presented the appearance of maniacal dementia, and was in fact a chronic maniac; the other had an attack of acute mania of several weeks' duration. In the first case a very grave inflammatory lesion involving the cervico-facial regions occurred, with profuse suppuration which persisted for a long time. During this sickness all mental troubles disappeared suddenly, and for three weeks there was an apparent cure. At the end of this time, however, the former mental condition returned rather suddenly. In the second case typhoid fever in a grave adynamic form set in, and during the period of the disease the maniacal symptoms disappeared suddenly and completely. This condition lasted for a month, when the symptoms returned, to be followed, however, by a progressive amelioration.

The influence of microbial diseases, continues the author, among the insane leads, in the majority of cases, when the subjects are young, to a more or less considerable amelioration of the mental condition. This may go on until the complete disappearance of the maniacal symptoms, whether it is acute or chronic mania. But the sudden return to the normal condition, followed almost as suddenly by a relapse, can not be considered as a veritable cure, but only as an apparent recovery, an eclipse of the former psychopathic condition.—*N. Y. Med. Jour.*

Tetanus Following Repeated Injections of Morphine.—The May number of the *Medical Chronicle* contains the following account, by Dr. D. J. Leech, of two cases of tetanus which came under his observation: The first case was that of a man, 33 years old. Two days before the author saw him he complained of pains in the muscles of the neck. Tetanic paroxysms very soon set in, and on the afternoon of the third day they occurred at frequent intervals, and were quite characteristic. He died a few hours afterward.

He had not suffered from any injury, but he had contracted the habit of injecting himself frequently with large quantities of morphine, and after death, marks of the injection of morphine were found all over

the anterior surface of the body. The thighs especially were closely covered with nodules, some of which were dark at the top. The lower part of the abdomen was less closely covered by them. There were no ulcerations, but here and there some cicatricial tissue. Several dirty syringes for the injection of morphine were found, and one or two bottles containing turbid morphine solution. The patient had been in the habit of injecting into himself considerable quantities of morphine, and there was reason to believe, says the author, that he had paid but little attention either to the cleanliness of the syringe or the clearness of the solution he used.

The second patient was under the care of Dr. Elliott, of Rochdale, who had given him morphine occasionally for four years, but, finding that the man had begun to purchase morphine for subcutaneous use by himself, had refused to give him any more, and nothing was heard of the patient again until February of this year, when Dr. Elliott's partner, Dr. Brooks, was sent for, and found the man suffering from violent tetanic paroxysms, from which he died in a few hours. The illness dated only from the previous evening.

He had not suffered from a wound or injury of any kind, but the body, arms and legs were found covered with marks due to the hypodermic injection of morphine. No ulceration could be found, but in many places there was cicatricial tissue.

Several somewhat similar cases, says Dr. Leech, have been placed on record. In the *Brit. Med. Jour.*, for November, 1879, there is an account of the death of a woman from tetanus, who had long administered to herself subcutaneously large quantities of morphine. The front part of the body was covered with innumerable scars from the punctures caused by the hypodermic needles.

Osborne (*Ibid*, July, 1892) records the death of a man, aged 24 years, from tetanus which was evidently connected with a suppurating sore near the right shoulder, following the hypodermic use of morphine. This man had been in the habit of injecting himself with morphine.

A series of cases, says Dr. Leech, have also been recorded of tetanus occurring after the subcutaneous injection of quinine, and Dr. Anderson states that tetanus is by no means uncommon after the use of the hypodermic needle.

It is worthy of note, says Dr. Leech, that in most of the cases in which tetanus has occurred after the injection of morphine the injections were self-administered. Habituation to the use of the drug, he says, seems to engender carelessness as to the condition of the syringe and the solution employed.—*N. Y. Med. Jour.*

The Distribution of Iron in Animal and Vegetable Cells.—R. H. Chittenden (*The Diet. and Hygien. Gaz.*) says, in the higher forms of animal life the greater part of the assimilated iron in the cells is held in the chromatin in the nucleus. The chromatin fibrillæ, the chromatin granules, and the nodal points of

the chromatin network all exhibit the clearest evidence of the presence of iron, according to Macallum. The same distribution holds good for the nuclei of all the higher vegetable organisms. In the cytoplasm of animal cells, the presence of assimilated iron is the exception and not the rule, although the exceptions are somewhat noteworthy; *e.g.*, the hemoglobin and hematin of the blood, the hematoblasts of vertebrates, the enzyme forming gland-cells of most animals, and yolk holding ova. In the latter cases, however, with the exception of hematin and hemoglobin, the iron may still exist in combination with chromatin, for it is well-known nucleoproteids are to be found, to a certain extent, in the cytoplasm of cells as well as in the caryoplasm.

According to Macallum the hemoglobin of the red corpuscles and the analogous compound in muscular fibers are formed from iron containing chromatin. The only difference between them is that the pigment of the muscular fibers does not, in its evolution in the developing ovum, comprehend a stage of nuclear chromatin.

The only exceptions to the rule that glandular secretion is associated with the presence of an iron holding cytoplasm, the author has found to be in the mucous glands of the skin of amphibia, and in the renal tubules of vertebrates generally. In the protozoa the presence of assimilated iron in the cytoplasm seems to be a constant feature. The iron is not confined to any one part of the cell, but uniformly distributed through it and he goes on to say that there is a probability that this cytoplasmic iron holding compound is also associated with the secretion of ferments functioning in the digestion of the ingested food.

From this article it is very evident that the so called chromatin of animal and vegetable cells is an iron-containing substance; and also equally evident that chromatin does not have a constant and definite chemical composition, although nuclein is its main constituent. But nucleins are variable in composition, and consequently the chromatins present in various glandular organs will show variable reactions dependent upon the exact nature of the contained nuclein. The iron of the chromatin is undoubtedly a part of the nuclein or of the nucleic acid, although it is difficult to say how the iron is disposed in the molecular structure of the nuclein.

The conditions known as anemia and chlorosis in the higher vertebrates must now be referred to a deficient supply of the primary iron-containing compound, chromatin, not only in the hematoblast, but in all the cells of the body.—*Amr. Med. Surg. Bulletin.*

The Temperature of the Mouth.—Dr. Leonard Williams has made experimental observations on the variations in the temperature of the mouth in health, produced by local application of heat and cold. While his conclusions will not alter the every-day manner of taking the temperature under the tongue, as this answers every practical purpose, they may be of value where extreme accuracy is desirable.

The author sums up as follows (*London Lancet*, Oct. 26, 1895): "It seems probable that the modification in the temperature of the mouth induced by the local application of heat and of cold depends partly upon the modification in the temperature of the tissues of the mouth brought about by the temperature of the fluid in use, but that this portion of the modification is of short duration; the more important and lasting portion of the change seems to be due to variations in the blood supply brought about by vaso motor action. Whether this be connected with the increased activity of the salivary glands, or not, is at present doubtful. From the clinician's point of view the most important conclusions from this investigation are as follows:

"1. Heat and cold when applied to the mouth even for a very short time cause marked variations in the temperature of the mouth.

"2. The effect of heat, though less pronounced, is considerably more prolonged than that of cold.

"In practice, if a great degree of accuracy be required, I would suggest that the temperature should never be taken in the mouth unless other parts are inaccessible; but if only the mouth be available, then attention should be paid to the following:

"(a) One hour at least must have elapsed since the last food or drink of any kind, and even in the smallest quantity, has been taken by the patient.

"(b) For ten minutes previous to inserting the clinical thermometer the mouth must have been kept completely closed.

"Under such circumstances as these, and under them alone, is a temperature taken in the mouth a reliable index to the body temperature."

Night-Terrors.—Up to the present time the above subject has received but scant attention at the hands of English writers on medicine. Satisfactory or unsatisfactory as the writings on night terrors of the authors of these nationalities may be, there is one fact concerning them that must strike the most cursory reader. This is the extreme divergence of opinion among them as to the nature and importance of the complaint; and at first sight it would seem a hopeless task to attempt to reconcile them. All these conflicting opinions as to the causation of night terrors may be summed up, under two comprehensive groups. In the first group may be classed the opinions that the complaint is reflex in its origin or due to partial asphyxia owing to abdominal disturbance, naso pharyngeal trouble, or ill ventilation of the sleeping apartment. In the second group may be classed the views that night terrors are central in origin and manifestations of present brain disturbance, and the harbinger of possible further neuroses in the near or distant future.

Keeping these two sets of opinions under consideration, it can be shown that the holders of them have arrived at their widely different views of the causation and importance of night-terrors from a confusion between conditions that manifest themselves by symptoms

that, at first sight, bear a close resemblance to each other.

Now, there are two totally different classes of cases with the common symptom of terror arising during sleep. In the first class come cases which are fairly frequent and of little import, where the terror is reflex and due to abdominal or nasal trouble. In the second class come cases of comparative infrequency where the malady arises from central cerebral disturbance, and is to be regarded with gravity as to both the present and the future of the patient. For the first class of cases, where the complaint is of reflex origin, the writer suggests the familiar name of "nightmare," reserving that of "night terrors" for the second class, where the malady is central in origin. Such an appropriation of names is, of course, purely arbitrary, and the two might be interchanged with equal propriety, but the name "night terrors" has now gained a firm footing in medical nomenclature, and it seems fitting to reserve it for the class of cases that alone deserve a separate name and description.

As a cardinal point of distinction between the two complaints, the writer insists that in night-terrors it is essential that the little patient should "see visions;" in nightmare it is sufficient that he should "dream dreams." There are many other points of distinction, but, in attempting a discrimination between them, the last mentioned is a fundamental one. Night-terrors seldom occur in children under the age of two or above that of eight years. In nightmare there is no limit to age.

The first thing that calls attention to the child is almost invariably a sudden, agonizing scream of terror. On entering the room he is found, seemingly wide awake, sitting up in bed or crouching in a corner. With flushed face, and in a state of wild excitement, he converses with, or vehemently protests against, some imaginary person or thing that he sees close to him. The vision is always something of a threatening or terrifying nature, such as a horrible negro, a black statue, and the like. One must be much struck, too, with the large part the color red plays in these hallucinations, and Gowers has pointed out the same fact in the visual auras of epilepsy, and soldiers, blood, and fire figure prominently in the accounts furnished by parents. Whatever be the nature of the visions, it is repeated again and again in exactly the same features in each attack, even after the passage of months in the interval between them. Although seemingly wide awake in the attack, the child cannot be made sensible of his surroundings, and generally after being laid down goes off into a deep sleep without recognizing those about him. In the morning he has usually no recollection of what occurred during his sleep. Care has to be exercised in ascertaining this point, as children are apt to appropriate as their own experience occurrences that are often talked of before them, and are ready to detail them with parrot like precision when questioned. It is not, of course,

that all these characteristics should be present

before determining as to whether a given attack was one of night terrors or not.

Contrasting nightmare with night-terrors, important differences are not hard to find. In the former the sleep is often disturbed from the outset, and the attack is merely a culmination of the state of unrest. On going to the child on his crying out, he is found wide awake, and not merely seemingly so. He generally complains of some vague terror, the result of his awaking alone in the dark. If he complain of persons or things being in the room, it will be found that his fancies are merely the remnants of a troubled dream, and he does not see them in the presence of a light. The objects of apprehension, too, are generally such as he has come across in his waking moments. It is perfectly common for a child that has been terrified by a person or some animal in the daytime to have such terrors repeated in his dreams at night. In contradistinction to night terrors, the same objects of dread are not presented with unchanging fidelity, but may vary with each separate attack. Although the child may be almost demented from extreme terror, and it may take some time to soothe him from it, yet he is from the first aware of the presence of those in the room with him. When his fears are allayed, he so dreads the return of them that hours of wakefulness may be the result of the attack. In the morning he has usually a perfect recollection of the occurrences of the night.

The treatment of night-terrors calls for but few remarks. When the attacks are frequent and they cause distress to the relatives, the writer agrees with the common practice of giving appropriate doses of bromide of potash. By this means, and more especially when the drug is given in the evening, the attacks can be largely held under control. If, however, the attacks are infrequent, and there is no other indication for the administration of bromide, a prolonged course is inadvisable and possibly harmful.—J. A. Coutts in *Amer. Jour. of Med. Sci.*

Tubercular Abscesses.—Dr. Newton Shaffer, the well known orthopedic surgeon of New York, during the past four years has treated all the cases which entered his hospital with tubercular abscesses by the plan of non-interference. Thirty five patients presented themselves with abscesses, and twenty six of these remained under the care of the institution a sufficient length of time to test the value of the plan. The results were so successful that Dr. Shaffer publishes them in the *New York Medical Journal* (Feb. 29, 1896), with a strong recommendation to his fellow practitioners that a similar plan of *let alone*, so far as opening the abscess is concerned, be adopted, although it must be remembered Dr. Shaffer is a master of mechanical treatment of tubercular lesions, which is doubtless the chief factor in his success. Of these twenty-six patients, three had each two distinct abscesses, making twenty-nine abscesses treated in all. In two of the double abscess cases there were large bilateral ilio-psoas abscesses,

and it is worthy of note that absorption of the abscess occurred in all these cases. Of the twenty-nine abscesses, eight (27.58 per cent) underwent complete absorption; nineteen (65.51 per cent) after opening spontaneously, closed under simple external dressings, in periods ranging from two to twenty-one months; and in two (6.89 per cent) there are still small sinuses discharging a few drops daily. Of the twenty-nine abscesses, 93.09 per cent have either closed or been absorbed. Of the remaining nine patients, one was removed by her mother after the efforts of the surgeons, up to the time of removal, had failed to produce an adequate joint-protection on account of the location of the abscess. In one instance the abscess was nearly well when the patient entered the wards.

In seven instances the patients either entered the wards with phthisis pulmonalis, or had multiple joint disease, or were removed from the care of the hospital while under active treatment. Of these seven, five died, and two have small sinuses which discharge slightly.—*Medicine.*

A Study of the Infectiousness of the Dust in the Adirondack Cottage Sanitarium.—Irwin H. Hance (*Canadian Practitioner*, January, 1896) gives a very interesting *resumé* of the literature bearing upon the infectious character of tuberculosis, and relates some instructive experiments upon the subject. These were done at the request and under the supervision of Dr. Trudeau, at the Saranac Laboratory, and consisted of inoculations, into the subcutaneous tissues of guinea-pigs, of suspensions of dust from the various buildings and cottages of the Sanitarium. A total of eighty-one inoculations was made, all but eight of which gave a negative result. Three of the animals died of rapid acute infections; the remaining five fatal cases were infected with tuberculosis. They all occurred among the ten animals which were inoculated with dust from the "Red Cottage," which had been occupied by the sickest patients and by one who was notoriously careless as to spitting about the cottage.

The author seems justified in concluding that the freedom from infectious material of the dust from sixteen out of seventeen buildings tested is due to strict measures in disposing of sputum. The patients are carefully instructed concerning the disposal of their sputum, and close supervision of them is maintained. The pasteboard cuspidors are burned daily, as are the Japanese napkins as soon as possible after using. Paper napkins are used in the infirmary in hemorrhage cases or where patients are too feeble to get up on their elbows so as to use a cuspidor. These are used but once, then placed in a pasteboard receptacle and soon after burned. In addition to these measures, the author insists upon general good hygiene, etc. These results show that buildings may be occupied by consumptives for many years and still be uncontaminated by infectious material if the discharge of bacilli from the patient be properly cared for.—*Medicine.*

SURGERY.

Suture of the Heart.—Cappelen (*Norsk Magasin for Lægevidenskaben*) reports the following case: A man, aged 24, had some hours before admission received a stab from a knife in the left side. He went home alone, and about an hour afterwards was found lying in a pool of blood. He was brought to the hospital in a cab, and on admission was found to be unconscious; the pulse could not be felt, but pure though weak heart sounds could be heard to the right of the sternum, on a level with the fourth rib; the impulse could not be felt. In the fourth left intercostal space, in the middle axillary line, paralld with the rib, was a punctured, non bleeding wound 1 c.cm. long. After a camphor injection the patient began to breathe and the pulse could be felt. The left side of the chest did not move in respiration. Under chloroform narcosis a resection of the fourth rib was made after enlarging the wound. The pleural cavity was filled with partly liquid, partly coagulated blood, compressing the lung. After evacuating the blood, which was estimated to be about 1,400 c.cm., the lung dilated and was found not to be wounded. By resecting 5 cm. of the third rib a wound 1 cm. long could be seen on the pericardium, bleeding freely. The sac was filled with coagula, and on enlarging the opening a wound 2 cm. in length was seen on the left ventricle, causing the bleeding. The wound was sutured and an artery tied, after which the hemorrhage ceased. The needle was brought half way through during a contraction and then dropped, and when the heart dilated after a second contraction the point was grasped and the needle brought completely through. The suturing was made very difficult by the rhythmic movements of the lung, which covered the whole operating field, and by the heart contractions, which, however, were perfectly regular and quiet all the time. The pericardial cavity was emptied of clots as far as practicable. The pulse after the operation was very quick and feeble, but improved after a subcutaneous saline injection. The patient sank gradually, however, and died two and a-half days after the operation. At the necropsy it was found that a large branch of the coronary artery had been wounded; the wound had begun to heal, but there was evidence of pericarditis, and various bacteria were found in the fibrinous exudation. The knife had passed through the pleura in front of the lung without wounding it, and again through pleura and pericardium into the heart.—*Brit. Med. Jour.*

Prostatic Retention Treated with the Galvanic Current.—Minervini (*Rif Med*) reports the case of a man, aged 68, who had suffered for three years from dysuria, and for the last six months for hematuria and ischuria. The prostate was enlarged and a calculus found in the bladder. On Dec. 24, 1895, suprapubic cystotomy was performed, and eight small calculi were extracted. The middle lobe of the prostate was di-

tinently seen to be enlarged. As no improvement occurred in the dysuria the author on January 29 applied a modified Apostoli method, consisting in the introduction of insulated electrodes into the urethra and rectum, and then using currents of 30 m., increasing up to 100 m. Before treatment the patient could not emit a drop of urine spontaneously. After six applications he began to urinate by drops, after ten in a filiform stream; after the twentieth the patient felt so much better that he wished to leave the hospital; after the thirtieth and last he could do without a catheter, and would not continue the treatment. The ischuria disappeared rapidly, and undoubtedly a certain amount of reduction of the prostate occurred. Each application lasted from five to ten minutes. As a rule the negative pole was put in connection with the urethral conductor at first, and the direction of the current changed three or four times in each sitting. A sense of burning and some tenesmus occurred, especially on changing the current.

OBSTETRICS AND GYNECOLOGY.

On the Prophylactic Value of an Abdominal Belt After Celiotomies.—During the last five years, I have had charge of the after-treatment of nearly three hundred cases of abdominal section. On leaving bed, each case has been fitted with an abdominal belt and instructed to wear it for a year; and though ventral hernia has been rare, I have become convinced that the integrity of the abdominal walls was due rather to accurate suturing and to prolonged confinement in a recumbent posture than to any virtue of the artificial support. This opinion was so at variance with my preconceived ideas on the subject that I determined to write to some of the leading surgeons and gynecologists of the country to ascertain their practice. The following is an abstract of answers received:

Dr. John Ashhurst, Jr., of Philadelphia, said that he did not invariably use an abdominal belt after celiotomy, but that he thought upon the whole it was a useful precaution to employ.

Dr. W. T. Bull, of New York, said he employed an abdominal belt after abdominal sections for at least a year, when the wound healed by primary union; indefinitely, if it healed by granulation. He was convinced of its value in preventing hernia, although the condition might develop in spite of its use; that it was the only safeguard we had, and failure to use it might, in large wounds, lead to voluminous and disabling protrusions.

Dr. David W. Cheever, of Boston, said he used an abdominal belt with a pad over the incision, after suprapubic operations, and that he saw no reason to doubt its value as a prophylactic against hernia.

Dr. P. S. Connor, of Cincinnati, said he used an abdominal belt, but he thought it of very doubtful value.

Dr. W. H. Carmalt, of New Haven, said he used an abdominal belt after laparotomies, and that he would

continue to do so until some reliable surgeon or gynecologist told him that he had dispensed with it and found it unnecessary.

Dr. John B. Dewey, of Philadelphia, said he used an abdominal belt, and was convinced of its value.

Dr. W. E. B. Davis, of Birmingham, said he used an abdominal belt in deference to the practice of others, but that he had no positive conviction of its value.

Dr. A. G. Gerster, of New York, said that he used the abdominal belt only where the wound healed by granulation, and that he thought it of conditional value in retarding hernia.

Dr. J. McFadden Gaston, of Atlanta, said he used an abdominal belt with a large compress, after all sections for abdominal tumors, to restore pressure upon the viscera, and that it could not be dispensed with for a month after such operations, without incurring risk of hernia.

Dr. J. B. S. Holmes, of Atlanta, said he had abandoned the use of the abdominal belt, and that he had never realized any benefit from its employment.

Dr. Wm. S. Halstead, of Baltimore, said he never used an abdominal belt, and did not believe it was of any value.

Dr. Howard A. Kelly, of Baltimore, said he used an abdominal belt only in exceptional cases, and then for comfort. It was of no value as a preventive of hernia.

Dr. W. W. Keen, of Philadelphia, said he used an abdominal belt, after all celiotomies, and was confident it retarded the development of hernia.

Dr. L. C. Lane, of San Francisco, said he used an abdominal belt, and was confident it retarded the development of hernia.

Dr. Claudius H. Martin, of Mobile, said he did not use the abdominal belt, nor did he think it possible that it could prevent hernia; that he closed the wound with three layers of buried cat gut sutures, sealing it with iodoform, collodion, and never took the dressing off, unless indications arose, until it was perfectly healed. That he had had but one case of hernia in his practice, and that occurred where a glass drainage tube had been inserted; and that he believed in this case the accident could have been prevented by care.

Dr. Charles McBurney, of New York, said he generally advised the use of a well-fitting abdominal belt after an abdominal section, and that if the belt fitted perfectly every part of the abdomen, he thought it useful. Otherwise, in making uneven support, it did positive harm.

Dr. H. H. Mudd, of St. Louis, said that he very rarely used an abdominal belt, and that he did not believe it was of any value in preventing the occurrence of hernia.

Dr. J. Ewing Mears, of Philadelphia, said he advised the use of an abdominal belt for a period of from three to six months after a section, and that he was convinced of its value.

Dr. Thos. G. Morton, of Philadelphia, said he occa-

sionally used an abdominal belt, especially in the abscess, and that it seemed to be of value in some unusual cases.

Dr. E. M. Moore, of Rochester, said he never used an abdominal belt, and he thought it had no value.

Dr. J. B. Murphy, of Chicago, said he did not use an abdominal belt after any celiotomy, as he was convinced it was of no value in preventing hernia.

Dr. Henry O. Marcy, of Boston, said he had not for the past ten years used an abdominal belt after celiotomy; that in three hundred cases where he had closed the wound with tendon sutures and sealed with collodion, he had had but two hernias—one from suppuration, and one from general pouching of aponeurosis between the separated recti.

Dr. Chas. B. Nancrede, of Ann Arbor, said that he used an abdominal belt after all celiotomies, as he believed it prevents hernia by lessening the effect of sudden or violent efforts.

Dr. T. F. Prewitt, of St. Louis, used an abdominal belt after celiotomies, and he thought it of service.

Dr. L. L. Picher, of Brooklyn, said he advised the use of an abdominal belt for from six to nine months after an operation; and he was convinced of its value.

Dr. Joseph Price, of Philadelphia, said he never used an abdominal belt, as he was convinced it was of no use in preventing hernia.

Dr. John H. Packard, of Philadelphia, said he did not use an abdominal belt after removal of the primary dressing, except in some cases for its moral effect; and that he believed it was of value only when the wound was very extensive, or when the walls were very bad.

Dr. Roswell Park, of Buffalo, said he very rarely used an abdominal belt, and that it was only of value in very fat patients.

Dr. John B. Roberts, of Philadelphia, said he usually, but not always, employed an abdominal belt; that he had no absolute assurance of its value, but liked it in cases of pendulous abdomen.

Dr. L. A. Stinson, of New York, said he rarely used an abdominal belt after celiotomies, but was convinced it was of value in some cases.

Dr. N. Senn, of Chicago, said he invariably directed the use of a proper abdominal support after every abdominal section, and insisted on the patient wearing it from six months to a year, as he believed the bandage useful in preventing ventral hernia.

Dr. W. S. Tremains, of Buffalo, said he used a belt after celiotomies, and was convinced of its value.

Dr. L. M. Tiffany, of Baltimore, said he used a belt after celiotomies, and was convinced of its value.

Dr. A. Vander Veer, of Albany, said he used a belt after celiotomies for comfort, but did not think it tended to prevent the formation of hernia.

Dr. R. O. Weir, of New York, said he did not use a belt when the wound had been closed by suturing and healed by primary union, but usually employed it when the wound had not been sutured, and healed by granu-

lation. As a preventive of hernia, he thought it of doubtful value, but useful as a placebo.

Dr. J. C. Warren, of Boston, said he used the belt after celiotomies, as he thought it had some influence in preventing distension of the cicatrix after unusual exercise.

It will be seen that the majority of the writers employ an abdominal belt after celiotomies—some from conviction, some from doubt, and some from indifference. The fact, however, that a single competent observer has discarded its use and found no reason to regret abandoning artificial support, proves that in the large majority of cases it is unnecessary. Because an abdominal belt is indicated in some instances is no reason why it should be employed in all cases. Routine practice is bad practice.

I protest against the use of the belt, not only because of expense, which to some is of considerable importance, but also because of the irritation, annoyance, etc.; and I believe it will follow the obstetrical binder, being as unnecessary.—Dr. Stuart McGuire, in *Richmond Jour. of Practice*.

Albuminuria in Pregnancy, Labor and Childbed, and its Relation to Eclampsia.—

Saft (*Arch. f. Gyn*) concludes from a large number of observations that albuminuria occurs during the latter half of gestation in 5.41% of all cases, more frequently towards the end of pregnancy and oftener in primiparæ (5.9%) than in multiparæ (4.1%); it is more common also in the former (32.08%) than in the latter (22.6%) during labor. As a rule it disappears within a few days after delivery, but is more likely to persist in primiparæ in whom the effects of gestation upon the kidneys are altogether much more serious than in multiparæ. White and red corpuscles in non albuminous urine of pregnant women come from the bladder, but neither during pregnancy nor labor are cylinders found without albumen, though their presence does not seem to depend on the degree of albuminuria, nor to influence its duration. Twins and hydramnion are predisposing factors, contraction of the pelvis also, but in multiparæ only during labor. Premature labor is a frequent result. There is an affection of the kidney due solely to the condition of pregnancy, the pathological changes in which are merely degenerative; this affection is quite different from nephritis; when not complicated it is of favorable prognosis, and not likely to terminate in chronic inflammation; but when accompanied by actual nephritis or disease of the heart is of very doubtful issue. The cause of this affection is probably the auto-intoxication of the system by some product of tissue change, such as is the origin of the *molimina graviditatis* and of the nervous disturbances of the pregnant state. The muscular exertion during labor throws extra work on the kidneys, and it is the overloading of the system by this poisonous product that causes eclampsia and the secondary changes in the kidneys, liver and other organs. There is thus an intimate, if not a causal

connection between albuminuria and eclampsia, and the only proper way to solve the mystery surrounding the latter is to try to determine the nature of the active poison by observations made during gestation.—*Brit. Med. Jour.*

Twin Extrauterine Pregnancy: Successful Extirpation of Sac and Contents after Retention of a Fully Developed Fetus for Fifteen Years.—Folet (*Ann. de Gyn. et d'Obs.*) reports the following case. A uniformly hard, dull tumor, devoid of tenderness, movable in its lower part, and reaching four fingers breadth above the umbilicus, in a Fleming, aged 49, who could not make herself well understood, was diagnosed as a fibroma, partially calcified and abdominal hysterectomy decided upon. As soon as the abdomen was opened an edge of bone (one parietal overriding another) was felt through a moderately thick sac of supple tissue, and the diagnosis at once amended to one of extrauterine pregnancy. The sac did not appear to contain any fluid; it was partially adherent to the abdominal wall, from which it had to be detached with caution; it had many adhesions to the intestines, which were easily separated by the finger, and were evidently the results of recent peritonitis. Only one ligature was required, and the tumor was only retained by its base, when with a circular rent it burst, and five sixths of the sac came away with the contents, leaving a funnel formed by the remaining sixth attached by its outer surface to the pelvic organs. In the interests of the patient no endeavor was made to determine the exact relation of the sac to its surroundings; the edge of the funnel was fastened by eight silk sutures in the lower part of the abdominal wound, a large drain wrapped in iodoform gauze inserted in the peritoneum, and the remainder of the incision closed. Recovery was perfect. The temperature never rose above 37.5°, and in six weeks the cavity of the cyst was obliterated and the healing complete. The structure of the cyst seemed to show it to be a tubal one. It contained two fetuses; one (female) 46 cm. in length, with well formed nails, had lived to term; it was not, properly speaking, a lithopedion; the tissues, though dense, were supple, and nowhere calcified, and, on sections of thigh and arm, the skin and muscles were recognized by the naked eye and microscope. The other fetus had died about the third month; the thorax and head were much compressed, but could be made out, and the members were distinct. The cords of both ended at the lower end of the sac in a single placenta, the degenerated tissue of which was represented by reddish brown matter like touchwood, and broke into flakes on the slightest traction. Some days after the operation it was ascertained, through an interpreter, that sixteen years previous the woman had become pregnant, having before that had four children at term. She duly quickened, but at nine or ten months had a false labor; blood and membranes came away, and she had hemorrhage for six weeks. As ed to feel the movements of the child, and nothing

further happened, she persuaded herself she had been mistaken, and that she had not been pregnant, the more easily because her abdomen diminished a little in size, and her catamenia returned, and continued till she was 46. A doctor whom she consulted two or three years afterwards, while giving no definite diagnosis, deprecated any treatment. She was led to apply to Folet on account of repeated attacks of pain during the last year, probably due to the peritonitis which caused the intestinal adhesions.—*Brit. Med. Jour.*

Puerperal Suppuration of Parovarian Cyst.—Mouret (*Archives de Gynec. et d'Obstet.*, January, 1896) relates a somewhat desperate case brought to a safe conclusion. The patient was 20 years of age, and was delivered of her first child on December 31, 1894. All went well till January 15, when a rigor occurred. By the 21st there were all the symptoms of acute peritonitis. The patient's mother had a whitlow, and insisted on nursing her during the confinement. The patient became very ill; a tumor developed, and on February 25 violent rigor with rise of temperature to 104° occurred, so that Hamonic was called in to operate. The tumor adhered firmly to the parietes. It was opened without separation of adhesions; 8½ pints of clear yellow fluid and 2½ pints of pus escaped, and much semi-solid pus was cleared away. The inner wall was then washed with sublimate. The base of the cyst—right broad ligament—was so firmly adherent to the cecum, uterus, and bladder that the edges of the inseparable part of the tumor were sewn to the abdominal wound. On March 7—ten days after the operation—the patient had severe headache, Cheyne Stokes respiration, pulse 150, uneven pupils, diplopia and strabismus, hallucinations, delirium, vomiting, and albuminuria. The muscles of the back of the neck were rigid. The temperature was 104°. After appropriate treatment the patient slowly recovered—not without several untoward complications, including lymphangitis of the right thigh, with abscess (opened March 28). By April 16 she was fairly well. Albumen did not entirely disappear from the urine till May 5.—*Brit. Med. Jour.*

NOTES : AND : ITEMS

A Pasteur Institute has been established at Athens, Greece.

The Universities of Austria are seriously considering the advisability of extending their medical curriculum to cover a period of seven years.

The Fourth Congress of Criminal Anthropology is to be held at Geneva, Switzerland, under the auspices of the Swiss government, from August 4 to 29, of the present year.

Next October a scientific jubilee will be held in honor of the fiftieth anniversary of the first application of ether in surgical operations.

The Insane Will Entertain.—An entertainment is to be given by patients at the St. Louis Insane Asylum Saturday afternoon, June 27, for the benefit of the tornado sufferers. The show is to consist chiefly of a base-ball game, Punch and Judy show and music.

A Jenner Relic.—The Royal College of Surgeons was recently presented a silver lancet-case and lancets that were the property of Edward Jenner in his lifetime. The donor was Mr. E. Wadams, of Great Malvern, and the relic was presented to him by an old patient whose grandfather was an assistant of Jenner.

Sterilization of Water with Ozone.—The chemical sterilization of water by means of ozone is becoming quite an industrial factor in some parts of France. Oxidation is the most rational and perfect method of rendering bodies aseptic and ozone has much to recommend it. Its powerful oxidizing affinity and harmlessness makes it an ideal sterilizer.

The London Census.—The enumeration of the inhabitants of London last March shows that the population of London at that date was 4,411,271. The population according to the census of 1891 was 4,211,743; there has thus been an increase of a little over 200,000 during the five years. The estimated population in the middle of this year is 4,421,492, which is 14,463 less than the estimate hitherto in use.

The Young People's Society of Christian Endeavor will hold their Fifteenth International Convention in the City of Washington, D. C., July 8 to 13, 1896.

Delegates and others attending from the West and Southwest will find the Baltimore & Ohio Southwestern Railway, in connection with the Baltimore & Ohio Railroad, the shortest and quickest route to Washington, as well as the most desirable. The passenger equipment of this line is second to none, affording every possible convenience for comfort; two splendid through trains daily, designated as the "New York Express" and "Royal Blue Flyer," run direct to Washington. Arrangements have been perfected for cheap side trips from Washington to the many historic places in the near vicinity, namely: Mount Vernon, Harper's Ferry, the battlefields of Gettysburg, Norfolk, Hampton Roads, Fortress Monroe, and other points made prominent through their connection with the stirring events in our Nation's history.

W. P. Townsend, Traveling Passenger Agent, with headquarters at 105 N. Broadway, St. Louis, Mo., and G. B. Warfel, Assistant General Passenger Agent, Ri-alto Building, St. Louis, Mo., will gladly communicate with or call upon you, with full information covering rates, limits, time of trains, etc.

The Chemiker Zeitung states that according to Max Hagen the smoke of wood fires is not in the slightest degree injurious to vegetation.

A County Medical Society in Indiana is petitioning the support of its medical men in the initiation of a movement to secure the publication by the Government of a revised edition of the Medical and Surgical History of the War of the Rebellion.

Asepsis in Country Practice.—Where it is impossible to secure the appliances of a clinical amphitheater for an operation, the water used in washing the hands, the seat of the operation, etc., should be boiled for an hour (*Muench Med. Woch.*). All brushes should be boiled. The surgeon should carry with him antiseptic soap, alcohol, and a solution of sublimate. He should also carry handkerchiefs, aprons, bandages, silks, drainage tubes, etc., in a Mehler's sterilizing apparatus. Just before the operation all instruments, cloths, etc., should be boiled again. When possible the room should be wiped up with a damp cloth hours before the operation, and all curtains, hangings, etc., removed. The patient should be bathed, and all washing utensils, tables, and, in fact, everything to be used, should be carefully cleansed and disinfected. With infinite pains the difficulties of a country practice may be overcome and operations may be crowned with success.—*Med. Record.*

Phenomenal Weather.—The first things that would strike a stranger in Calcutta, are the dust and the heat which are rather abnormal this year. A curious phenomenon was witnessed a few days back. A peculiar kind of dust storm, laden with hot air, passed over the City. The temperature fell down at once as the storm came up, but it was soon followed by a wave of intense, dry heat. So fiery was the atmosphere, that an alarm of fire was raised in several parts of the town, and fire engines actually started out. The highest temperature recorded as yet, was reported at the Calcutta Observatory, last week. It stood at 109.2°. The cause of the hot winds is ascribed to a low pressure area along the base of the Himalayas. Instead of the cool southerly wind from the sea, which Calcutta generally enjoys at this season, it is exposed to the scorching hot winds from the north. There is a record in the proceedings of the Asiatic Society of Bengal of a similar phenomenon, observed at a mofussil station, some years back, but the cause of the phenomenon was not properly explained. The heat in Calcutta just now is simply terrible, and men and cattle are falling victims to it by hundreds. Not a day, a fortnight ago, passed without fire. How these fires broke out, it is difficult to say, but we believe, foul play was generally at the bottom of them. The Calcutta Police seem to be quite powerless. If a strict watch were kept in the native localities where the fires usually broke out, we are sure the danger would have greatly subsided.—*The Indian Lancet*, May 16, 1896.

Unhealthy Occupations.—In April 65 cases of lead poisoning in factories and workshops were reported in London, the same number as in March. Of these affected 41 were men, 18 women, and 6 young persons (1 lad and 5 girls). There was also one case of phosphorous poisoning (a woman).

North Missouri Medical Association.—The North Missouri Medical Association, at its recent meeting held at Moberly, Mo., elected the following officers: C. A. Jennings, President; W. MacAllister, First Vice-President; J. D. Brummel, Second Vice-President; Robert Haley, Treasurer; George N. Lance, Recording Secretary; G. O. Cupaidge, Corresponding Secretary. Executive Committee, J. H. P. Baker, W. T. Lindley, C. B. Clapp, D. R. Stratton. The next meeting will be held in Moberly, in June, 1897.

Cholera in Egypt, and Its Future Prospects.—We are now face to face with a considerable and increasing prevalence of cholera in Egypt, says the *British Medical Journal*, and the circumstance is the more important because cholera, having prevailed more or less in a quiescent form during the winter months in certain parts of Egypt, broke into new activity in Alexandria in the first week of May. Strenuous efforts were made to control it, but even in Alexandria the daily number of deaths shows no diminution, whilst at the same time the disease has extended to Cairo, Tourah, and to other places, and the record of deaths from cholera in Egypt averaged about sixty a day during the past week. In Cairo alone there were thirty-six deaths on May 26, and the native population in old Cairo are showing resentment at the sanitary precautions which are being enforced. We have also to remember that this cholera may, as the season advances, exhibit an activity quite in excess of that which attaches to the infection of the 1892-95 epidemic, and which is now on the wane in Eastern Europe; for, so far as can be ascertained, its source in the Hedjaz last year was traced to a distribution from the Far East. Marseilles seems to anticipate considerable risk this summer, and the authorities are wisely taking precautions in advance. It is to be hoped they will be of the truly preventive sort. In the meantime we have the summer before us, and with access of hot weather—especially any moisture combined with heat—we in this country may have to be very much on the alert.

Fruit as Medicine.—Why for ages have people eaten apple sauce with their roast goose and sucking pig? Simply because the acids and peptones in the fruit assist in digesting the fats so abundant in this kind of food. For the same reason at the end of a heavy dinner we eat our cooked fruits, and when we want their digestive action even more developed we take them after dinner in their natural uncooked state as dessert. In the past ages instinct has taught men to do

the same science tells us that fruit should be eaten as an aid to digestion of other foods much more than now. Cultivated fruits, such as apples, pears, cherries, strawberries, grapes, etc., contain on analysis very similar proportions of the same ingredients, which are about one per cent of malic and other acids, and about one per cent of flesh forming albuminoids, with over eight per cent of water.

Digestion depends upon the action of pepsin in the stomach. Fats are digested by these acids and the bile from the liver. Now, the acids and peptones in fruit peculiarly assist the acids of the stomach. Only lately even royalty has been taking lemon juice in tea instead of sugar, and lemon juice has been prescribed largely by physicians to help weak digestion, simply because these acids exist very abundantly in the lemon.—*Practical Sci. Monthly*.

Curious Things in Horticulture—Sex and Plant Life.—The intelligent fruit raiser finds many puzzling things in his studies of vegetation (*Diet. and Hygienic Gazette*). He finds that a sweet apple graft on a sour apple tree grows a sweet apple.

He finds that the scion of one kind of apple graft on another kind will dominate the root (or stock), so as to change its form—making the roots grow straight and compact like the roots of the parent scion rather than sprawling like the parent of the stock.

He finds that by taking two scions from different trees, one sweet and one sour, and dividing the scion lengthwise just alike and joining them to a perfect point and using it as one scion, the fruit on that scion will be a combination of both kinds of fruit in size, color, and taste.

He finds many remarkable things in regard to the pollenization of fruit and flowers. This subject is treated at length in Bulletin No. 5, division of pathology, U. S. Department of Agriculture. In this connection we quote from Dr. J. R. Cardwell's last annual report as President of the Oregon State Board of Horticulture:

"The law of sex applies to the vegetable kingdom as fully and irrevocably as to the animal, and a definite result in obtaining new varieties or improved quality is just as certain in the matter of fruit by cross-fertilization as improvement of animals by domestication. In the vegetable as in the animal, breeding in leads to impotency and sterility. Most of the improved varieties of fruit, especially pears and apples, are self-sterile, and must be cross pollinated with other varieties to produce fruit. Even the self sterile kinds are more productive and the fruit larger when cross pollinated. For this reason large blocks of trees of one kind should not be set, but if they are, each tree should have one or two grafts of another variety blooming at the same time, and after careful study the most prepotent fertilizer should be selected for the desired cross. All large orchards should be set with an occasional row of the desired prepotent pollinating tree."

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